Reviewed: AirPort • Madden 2000 • Sony vs. Canon DV Camcorders • Simply Postage

MacHome

NEW Developer Showcase pg. 80

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Sol[illegible] for Work, P[illegible] Education

1999 Reader's Choice Awards

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Apple's AirPort Lands

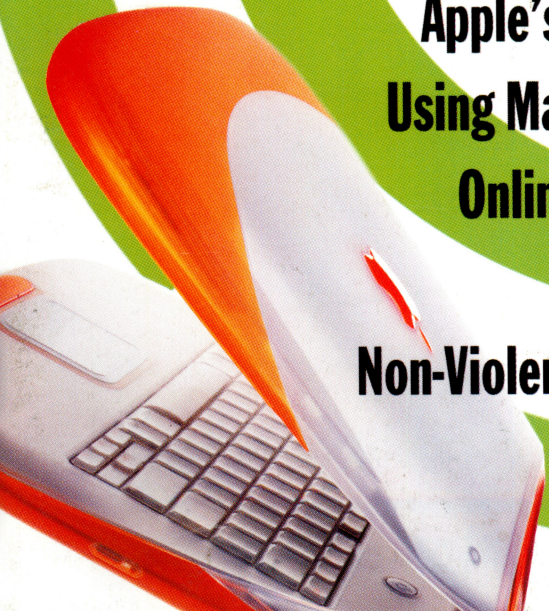
Using Macs for Science

Online Destinations

ABC's of DSL

Non-Violent Video Games

Tips & Tricks



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Introducing Mac® OS 9: with nine new power tools designed to make web surfing quicker, safer and infinitely more rewarding. Each of Mac OS 9's new Internet features would be a smash hit on its own, but now they're

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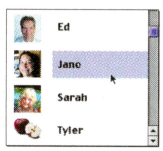
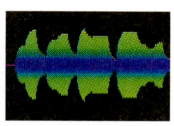
Now available on CD.

1. Sherlock 2. *The ultimate Internet search tool is now your personal shopper as well. Sherlock™ 2 can pinpoint products you want and let you compare prices, availability, even the time left for items on auction. It's also the easiest way to locate people, news and just about anything on the web.*

2. Multiple users. *No matter how many people share your Mac, it will always be your very own Mac. Just log in and all your preferences are activated, from your favorite browser to your choice of desktop patterns. Your private folder is easily accessible until you log out.*



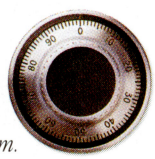
3. Voiceprint password. *Your voice is your password. When you log in, Mac OS 9 analyzes your voice to make sure you're who you say you are. If it's really you, you can get to work right away, with full access to your personal files. But if it's someone pretending to be you, access is denied.*



4. Keychain. *No need to keep track of all those passwords and digital certificates for e-mail and web servers. The personal keychain built into Mac OS 9 will keep track of them for you. Just speak or type your password to unlock them all.*

5. Automatic updating. *Now keeping your operating system up-to-date is as easy as installing Mac OS 9. Automatically, over the Internet, it will download (and even install) the latest free updates for your Mac. So you can get the most out of your computer, without worrying about the chores.*

6. Encryption. *Now your private information can remain private, even when you transfer it over the Internet. Mac OS 9 offers built-in, industrial-strength encryption – so you can rest assured that your important files will remain secure, no matter where in the world you send them.*



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8. Internet AppleScript. *AppleScript® lets you automate your Mac and your applications, from the simplest task to the most complex workflow. Now you can tap the power of AppleScript over the Internet. And harness the power of multiple Macs working together all over the world.*

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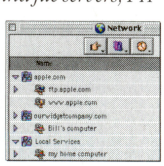

all available in one must-have collection. So if you're the type who loves to explore the Internet, now is the perfect time to install Mac OS 9. Surfing's greatest hits, now only $99.* www.apple.com. Think different.™

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february 2000

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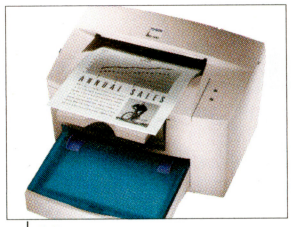

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4 apples	Document Express 2.5
3½ apples	Media Assistant
3 apples	SmartScore
3 apples	Storeys

Your Office: Hardware

3½ apples	AirPort
4 apples	Call Waiting Modem
3½ apples	Digital Handycam, DVR-TRV10
4 apples	Elura
4 apples	EPL-5700l Laser Printer
4 apples	iUPS
4½ apples	Performance Package USB
5 apples	Simply Postage

Entertainment

4½ apples	King of Dragon Pass
4½ apples	Madden 2000
4 apples	Myth: The Total Codex

Your Family

3½ apples	Yoda's Challenge
3½ apples	Mindtwister Math
4 apples	Backyard Football
4 apples	Photo Hunt in Yellowstone

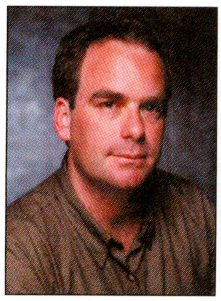
Our Rating System

5 apples	**Mac-nificent.** You gotta get it. No flaws.
4 apples	**Excellent.** Recommended even if it has a minor flaw or two.
3 apples	**Average.** Despite problems, still a worthwhile product.
2 apples	**Below Average.** Has serious flaws that limit its usefulness or fun.
1 apple	**Poor.** Avoid this product at all costs.

iMac/G3 Compatible USB

Indicates iMac/G3 compatibility

from the chief [Editorial]



Brush Your Teeth

Ever sit back and think, I mean, *really* think about packaging? You should. In many cases it's the main thing that differentiates one product from another.

Industrial designers know this better than anyone. The difference between, say, a tube of toothpaste that sells 100,000 units and one that sells 10 million units is often only that the cardboard and plastic wrapping are designed in an eye-catching manner in the latter — plastered with "action words" and motivational colors that spur consumers into action.

The politics of packaging are a whole separate deal. When there's a product that takes up five square inches, yet that product is packaged in a box measuring three square feet, some folks find that deceptive. Some call it effective marketing; others say it's wasteful and not ecologically sound.

Debates aside, let's consider packaging as something that's here to stay. Manufacturers know what they're doing. But do we consumers know what we're doing?

Yes and no. Take the iMac. How different is it, really, than any other computer? All computers work the same way: They take data in, perform various manipulations of said data, then send data out. Aside from the obvious differences in the Mac and Windows operating systems, what makes the iMac physically different?

My preamble tells where I'm heading: packaging. A knowledgeable source tells me the iMac (the original one, not the latest DV model) shares most of the innards of the "Wall Street" G3 PowerBook. Should that surprise you? Probably not; computer industry innovations tend to build atop one another anyway. Still, I was surprised. This is the computer that so electrified an industry that it not only turned around Apple's fortunes but inspired a host of imitators in the computer industry and beyond.

And yet, the original iMac is essentially a G3 PowerBook in a different package, with a slightly different set of interfaces and a monitor built in to the package. Just goes to show you what packaging will do. Not that the existing packaging of the G3 PowerBooks isn't nice — it's not quite in the same league as the iMac, but it's still nice.

The point is, what works for toothpaste is now working for computers, as iMac-inspired designs crop up all over. One important distinction, however: This packaging is permanent, not something like a cardboard box that has a useful life of about ten minutes after purchase.

But lest you think I'm lauding Apple unilaterally for having great design, think again. The difference, and the extra value that Apple brings to its latest products, is that they never lost sight of the primary objective: making computers simple. If colorful packaging makes them less intimidating, that's certainly part of the equation. Careful attention to detail, in terms of deciding which components to leave in and leave out, and how best to implement them for a computer that not only looks good but works well, is the other half.

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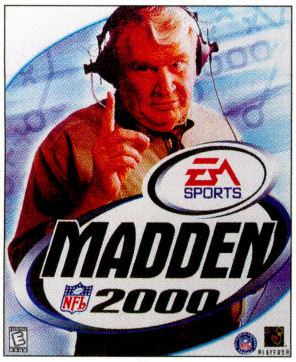
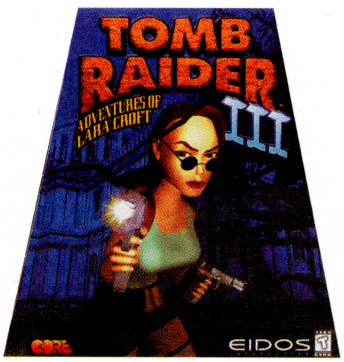
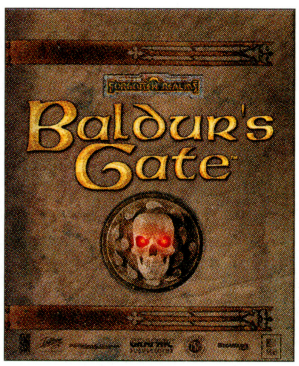
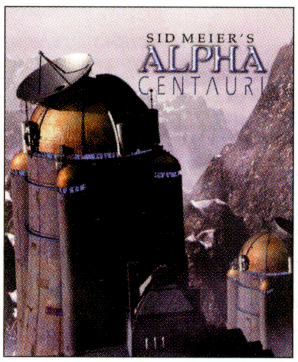
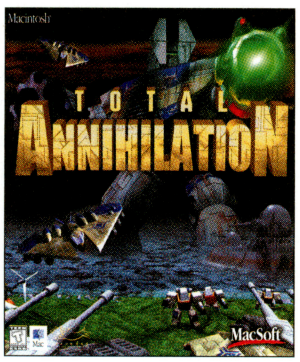
Mac Games that Rock.











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Write On [Your Letters]

Nyah ha haaaa

Yesteday at school, a fellow teacher tried unsuccessfully to print a test on a new PC our school district bought. I told her to save the test to a floppy, and I'd take it to my trusty old Power Mac 5620 and print it for her — no problem!

Wrong! Talk about user UN-friendly! She couldn't figure out how to format a new floppy. Another teacher tried to help without success. Now, understand, both these teachers have non-Macs at home. Eventually, after about fifteen frustrating minutes, I figured out how to format her disk and we saved the test. I took her floppy next door to my Mac and printed out the test for her. Our experience would make a great commercial showing just another reason why "we should have bought a MAC!"

John Weismiller

Fair Warning

I consider myself a fairly well-informed Macintosh user. Other people often seek my advice about purchasing both hardware and software. Currently I use both a beige desktop G3 running Mac OS 8.1 and a PowerBook G3 running the same operating system. After studying reviews of Mac OS 9.0 in the November and December *MacHome* (and other Mac magazines), I decided to upgrade to the new operating system. I installed it and all seemed to be just fine on the surface. But as I started doing some serious work, I discovered that RamDoubler and SpeedDoubler were not functioning, Adobe Type Manager was not working, and then I discovered that SoftWindows was seriously wounded and wouldn't function. I ended up reinstalling my old Mac OS 8.1. I later found fixes for most of the programs but it would have saved me a lot of trouble if I'd known about this.

What bothers me is that your publication, and all the others, didn't breathe a word of these incompatibilities. I know you depend on Apple for your livelihood, but must you be in bed with them when your readers and consumers of products advertised in your magazine are going to be injured from lack of knowledge?

It is my opinion that you have an obligation to inform your subscribers of both the good and the bad, because we are depending on you for this kind of information.

Helen E. Cruickshank

✍ *Zoink! The stories you mention were news items, not reviews, and should not be taken as recommendations. They are news stories telling about features in the new OS, according to information received from Apple. No one knew at that time which programs would be compatible or not, as no one yet had the program in their hands.*

If an article includes ratings, that's a review. We reviewed Mac OS 9 in the January 2000 issue, and you'll notice that we did in fact caution against incompatibilities. To wit, dig this passage:

"A major issue in deciding whether or not to upgrade an operating system is the software that you're using. At this writing, many popular software packages are not compatible with the Mac OS 9. But this should not be a problem for too long. Packages most likely to be affected by the upgrade are font management utilities, anti-virus software, disk tools, and diagnostic utilities."

Get More Info

In Back to Basics, November 1999, you suggested holding down the Option key and clicking on the bookmark to open the editing box. You might want to mention that this is also the Command I or "Get info" command that works all over the Mac system when you have questions about a file and elaborate on some of those examples. It's these types of consistencies that make the Mac platform so much easier to learn and use. I enjoy your magazine and have tried out many of your suggestions.

Linda Hillemann

Equal Time Revisited

Your response to Larry Chabot's letter (Write On, November '99) about equal time for environmental vs. commercial websites, was unprofessional. In particular the last line, "Get your own magazine," was uncalled for. If you were attempting to be funny, it didn't work.

Scott C. Miller

✍ *Touché! Please accept our apologies. And yes, we were trying to be funny.*

Shakespeare: Spinning in Grave?

Regarding the letter about incorrect grammar ("Learn Different" and, of course, the new Mac logo, "Think Different" in "Write On," *MacHome*, December 1999), may I attempt to clear the air before it clouds with floating grammarians ?

Both of these abbreviated sentences are actually quite correct. The word "different" is being used as what is called a "flat adverb," an adverb with

the "ly" omitted. Shakespeare would have loved it. He used them all the time.

There is a second way in which to interpret the sentences. "Think Different" could be stretched into a longer sentence such as "Think more creatively about the word 'different.'" In this case, "different" would be an adjective used as an objective complement to "word." The same could be said about "Learn Different": "Learn more creatively in order that you may be different." But in both cases, the shorter, imperative sentences make the stronger impression, in a word, make us think/learn different.

Of course you won't find the flat adverb taught in many schools. Not any more. Alas, teachers must spend too much time teaching kids how to spell their own names.

But as a Mac fanatic of many years (since 1984), I dare say neither the Mac nor *MacHome* will become "objects of scorn and derision."

Donna Henseler, Ph. D.

Many folks have written in about your habits of erudition. I say, heed not the dark words of malcontents, Good Editor! Keep up the good work and KILL YOU NOT, WE WILL.

I hope this will permit us to prevail against the slings and arrows of outrageous Fortune.

Stanley Neil Glass

✍ *Thank you kind sir. Very sententious of you.*

What the ... ?

Why did you decide to name your magazine "Macho Me"? Is it because Mac people are so conceited?

Richard Showstack

✍ *Macho Me? Macho Me? Oh! Wait — I get it! You made a new phrase out of* MacHome*! Very clever! But as for Mac folks being conceited, we haven't noticed such churlish behavior. If the folks here at, er,* Macho Me*, are any indication, however, Mac users embody all that is pure and good in this innately corrupt, greivous, and heartbreaking world.*

Corrections

In the December issue, the URL listed for the Center for Democracy and Technology was incorrect (Sidebar, "Anonymous Remailers," page 58). The correct URL is www.cdt.org*, not* www.cdt.com*. The responsible parties have been defenestrated.* MH

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newsWire [News & Products]

By Jackie Dove

Millennium Monitors

The Brave New World Is Flat

If you're in the market for a new monitor, there's no shortage of new and improved displays. The new displays are larger and flatter than ever, and they are designed with both screen and desk real estate in mind.

Mitsubishi has announced the **Diamond Pro 2040u**, a 22-inch flat-screen CRT that supports a maximum resolution of 2048 x 1536. This display, which features a .24mm dot pitch, sells for $1,349. It has a self-powered USB hub with two upstream and three downstream ports, so two independent computers can share a single set of USB devices.

Samsung 570p Plus

Samsung has unveiled two 15-inch flat-panel monitors, the **SyncMaster 570pPlusTFT** for $1,254 and the **SyncMaster 570sTFT** for $1,039. If you're a graphics professional, you may want to check out the more expensive model, as it offers some advanced video features, including the ability to directly hook up to DVD players, VCRs, and camcorders. If you're in business or run a small or home office, check out the latter, which is designed as a space-saving alternative to your bulky CRT. Both models come with a swivel base and are "pivot enabled" for instant switching between portrait and landscape viewing.

Sony has introduced three new E Series Multiscan computer displays — in 15-inch, 17-inch, and 19-inch varieties — all of which the company describes as "virtually flat," using Trinitron CRT technology. The series — which includes the Multiscan E100, Multiscan E200, and Multiscan E400 — is recommended for applications such as spreadsheets, finely detailed graphics presentations, browsing the Internet, and gaming. They range in price from $230 to $650.

Mitsubishi 2040u

Sony has also introduced a new line of Multiscan LCD flat panel displays, the **Multiscan N50** ($1,500) and the **Multiscan M151** ($1,300), both 15-inch flat panels. The N50 is a "super slim" model that saves energy via a power save mode that senses when you are in front of the monitor. The M151 gives you 15.1 inches of viewing space and includes a detachable "photo stand," letting you adjust the display to any viewing angle.

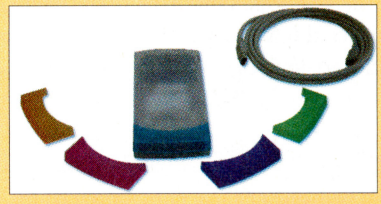
Not to be outdone, Apple has unveiled a 15-inch all-digital flat panel **LCD display** for $1,299. It features a digital video interface compatible with all G4 Macs, giving a resolution of 1024 by 768 pixels and supporting 16.7 million true colors.

Mitsubishi, 800-843-2515, www.mitsubishi-display.com
Samsung, 800-726-7864, www.samsungmonitor.com
Sony, 888-476-6972, www.sony.com/displays
Apple, 800-767-2775, www.apple.com

USB/FireWire Drives that Roar

Techworks, which you may know as the memory manufacturer, has come out with some nifty new Macintosh hardware.

The company has introduced a brand new portable hard drive for the iMac and iBook, in both USB and FireWire models. The 2.5-inch units come in all the iMac flavors



and have 6GB capacities. The USB units, which have a transfer rate of 12Mbps, cost $265. The FireWire models (for iMac DVs), have a transfer rate of 400 Mbps, and cost $288. All are compatible with Mac OS 8.6 and are scheduled to ship in January.

And if that isn't enough, Techworks has introduced a brand new USB Mini Digital Camera (it's really, really small) for $90, set to ship in February. This camera is a simple point and shoot with a 640 x 480 resolution, 24-bit color (that's millions of colors to you), and 16MB of memory, which means you can take 72 pictures before having to download and start over.

EZQuest is shipping its new Cobra series of FireWire hard drives featuring 10-, 20-, 27-, and 37GB capacities. They are compatible with iMac DV, blue-and-white G3s, and G4s. Prices range from $359 to $699. All drives ship with an "ice" exterior, internal auto-switching power supply, FireWire cable, and disk-controller software.

Techworks, 800-688-7466
www.techworks.com
EZQuest, 714-694-0031
www.ezq.com

The Stamp Act

While it's not exactly the kind of thing that inspires revolution, the Brother **StampCreator SC-900** can certainly stir up interest in your project and save you time.

With StampCreator you can use your computer to create custom-designed, pre-inked stamps of the rubber variety for signatures, clip art, graphics, type, logos, and photos. If you're still endorsing checks, signing memos, and writing return addresses by hand, StampCreator can relieve you of this tedium.

The package, which sells for $399, contains four sizes, three colors, 700 clip art images, and more than 100 stamp templates. The package features a pre-inked pad with thermal silk-screen technology, 360 dpi resolution for stamps and ID labels, LED operation lamp, serial cable and AC adapter, and Macintosh software. You'll get some 2,000 impressions from your stamp.
Brother, 800-276-7746, www.brother.com

Canon's Sweet Thangs

Scanners and printers and multi-purpose hardware ... where do you begin? Well, if your aim is a small footprint to the point of being portable, check out the **CanoScan FB 630Ui,** a thin, elegant flatbed color scanner. This unit, at 3.3 pounds, has a resolution of 600 x 1200 dpi at 36-bit color and can be color coordinated with any iMac via a colored lid. The scanner, which has a USB connection, accommodates documents of 8.5 x 11.7 inches. It will be available in February for $149.

If you're one of those people who needs a color inkjet, but you tend to use one color a lot more than the others, have a look at the Canon BJC-3000, available in February.

This $99 USB printer features individual ink tanks that save you money. Replace only the ink that runs out without having to replace an entire ink unit. This printer accepts all kinds of paper, including glossy photo paper. In another take on printer technology, the Canon BJC-85 can actually transform your printer into a sheet-fed scanner with a color image scanner cartridge option. This printer has seven built-in bitmapped fonts and 20 scalable TrueType fonts. With a USB or IrDa (infrared) interface, this model, for $299, will be available in March.

But maybe you want to print, fax, copy, and scan. Well, the MultiPASS C545, which can do all of these things, will be available in March for $349. The printer gives you 720 x 360 dpi output at five black-and-white pages per minute. A plain-paper fax in both color and monochrome, it can send at six seconds per page and print at four pages per minute. It can hold 42 pages in its memory. The one-touch color scanner features 24-bit color and up to 600 dpi resolution.
Canon, 800-652-2666, www.canon.com

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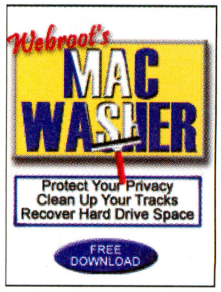
Covering Your Tracks

Let's face it, we're all concerned about Internet privacy these days. And there may be times when you don't want the next person who uses your Mac to know exactly which Websites you've visited. The MacOS, browsers and other programs store information about your computer and Internet activities.



MacWasher, developed for Webroot Software by Trexar Technologies, "cleans up" the history of your activities, saving you the time of manually removing each file (which also takes up valuable space on your hard drive).

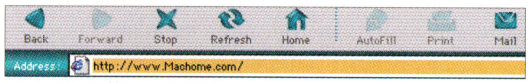
MacWasher, for $30, runs automatically in the background and cleans up your browser cache, cookies, history, drop-down address bar, auto-complete data forms, and downloaded program files. It also erases files such as recent documents, recent applications, temporary files folder, trash folder, and other folders within the Mac OS.

A "bleach" function will "shred" the washed files, making them unrecoverable to utilities such as Unerase or Undelete.

Webroot Software, 800-772-9383, www.webroot.com

Browser Bliss

Microsoft has introduced Internet Explorer 5 for the Mac, and it contains some serious improvements over the last version. For example there's the Search Assistant that makes it easy to find information on the Internet, while Related Links helps you find Websites of interest. Internet Scrapbook lets you capture Web pages and store them for future reference, and is especially useful for research or organizing ecommerce and online auction transactions. A Media Bar that supports QuickTime and MP3 lets you hear streaming media. IE 5 now lets you comfortably read all Web pages, even those (usually authored on that other operating system) whose type is too small.



For Web designers who write different versions of their HTML code to run with Mac and Windows browsers and operating systems, IE 5 promises to end this headache. IE 5 features 100% support for HTML 4, Dynamic HTML, Cascading Style Sheets 1, Document Object Model (DOM) 1, and XML 1. The new rendering engine (called Tasman, in case you're interested) — that's the technology that actually runs the browser — enables faster and more efficient performance.

But nothing beats the look and feel of this new browser (we've seen the preview, so we know). With toolbars and icons color coordinated to your iMac or iBook, Microsoft has ditched those intrusive side tabs in favor of a very slick tabbed menu that doesn't interfere with your browser window.

Microsoft, www.microsoft.com

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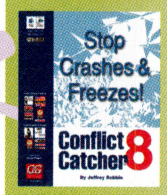
iWork



Conflict Catcher™ 8
Be prepared for any new system upgrade with the Clean-Install System Merge feature. With Conflict Catcher 8 you can also manage your system folder items and test for start-up file conflicts! This version is fully compatible with Mac OS 9 and greater, and completely year 2000 compliant.

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mac today HOT PICK! macworld expo • new york • 1999 · Macworld BEST of SHOW 1999 NEW YORK EXPO · Macworld

iWrite

NEW!

Grammarian™ 2
Check interactively or by batch in all your text programs, including e-mail, word processing, and more. The intelligent Thematic Relations Technology makes in-context suggestions. Offers 150 writing rules (more than any other integrated grammar checker) making your ideas clear and easy to understand. Good grammar is good communication!

Grammarian: MHJ

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Spell Catcher 8 is the ultimate writing tool! This powerful new version is automatically available in all programs, and the new Look Up window provides definitions, pronunciation, and thesaurus entries. Our extensive spelling dictionaries now support 9 languages, including U.S. and U.K. English, French, German, Spanish, Italian, and more!

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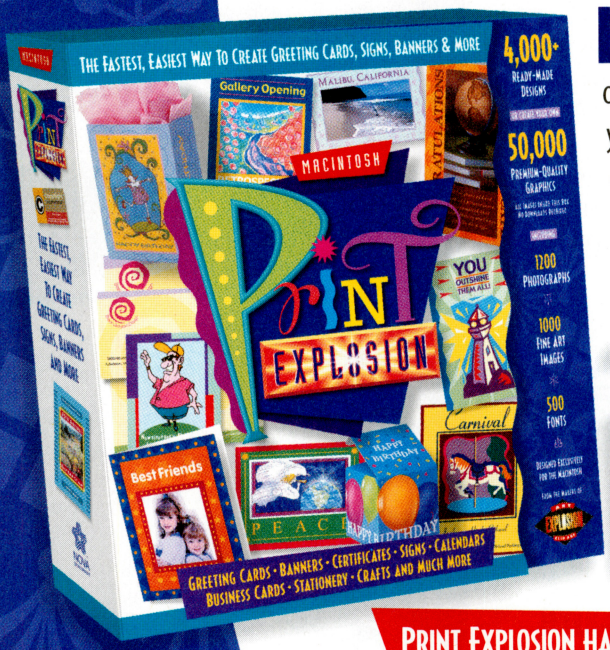

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You can create thousands of unique projects in three simple steps:

1. SELECT A PROJECT!

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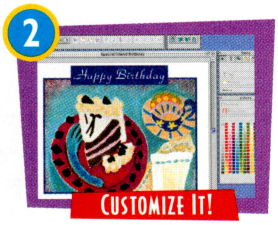
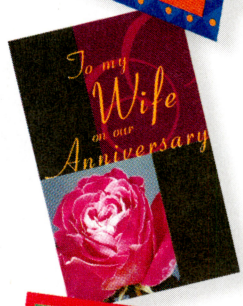
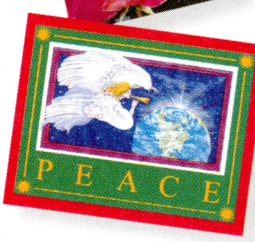
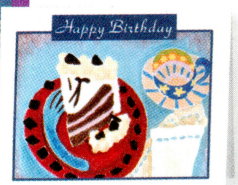


3. PRINT IT!







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Do you have one of those old "print programs?" If you're like many Mac users, you really enjoyed it until it became incompatible with your new computer or system software.

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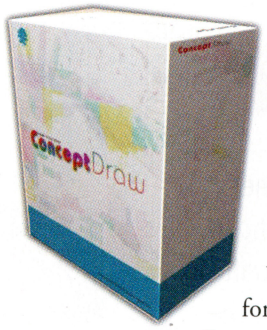
Dish up Fancy Org Charts

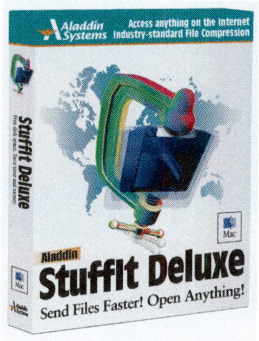


If you're the type who creates business drawings such as flow charts and organizational and marketing diagrams, you'll likely appreciate a program that can make them look compelling and fun. With **ConceptDraw 1.1**, from Computer Systems Odessa, every object in your drawing can be graced with line colors, fill colors, fill and shadow patterns, and gradients. Any object can contain text.

The program, which sells for $149 boxed, or for $125 as a Web download, also provides you with "snap-and-glue" tools for easy alignment of points, lines, and objects as you draw. ConceptDraw is compatible with Microsoft Word, plus you can import and export JPEG and PICT images, as well as other formats.

Computer Systems Odessa, www.conceptdraw.com.ua

Stuff It



Aladdin is now shipping StuffIt Deluxe 5.5, a new upgrade of its Mac compression utility suite, which also includes DropStuff and StuffIt Expander. The upgrade is compatible with Mac OS 9 and costs $20 (except for those who purchased the $80 package after October 1, 1999, in which case the upgrade is free).

The new version features faster compression and expansion, self-extracting archives for Windows files from your Mac, the ability to create and open ZIP files on both platforms, and more. A DropConverter updates old StuffIt archives.

Aladdin Systems, 831-761-6200, www.aladdinsys.com

Are Your Missing Phone Calls?

You know the problem. You've got one telephone and you're always online. That means you stand an excellent chance of missing just the call you were waiting for. Zoom's **Call Waiting** modem solves that problem.

Zoom Technologies is now shipping most of its 56K modems with Channel 2T, a feature that lets you receive incoming calls while you're browsing the Web. Channel 2T, which works in conjunction with call waiting, is designed to work with all browsers and data communications software packages. While you're online, incoming telephone calls can be handled in several way.

Another solution to the same dilemma comes with Pagoo **Call Catcher,** an Internet call waiting service for the Mac that performs a similar function. Designed specifically for Mac users accessing the Internet with a single phone line, it catches phone calls that would otherwise be met with a busy signal. This virtual second phone line alerts you to an incoming call without interrupting your Internet session. Instead, when a call comes in, Call Catcher "picks up" the call and records the caller's voice message. A freeware program is included in the service package, which costs $3.95 a month for a year's subscription and $4.95 a month for a six-month subscription. Both subscriptions give you unlimited usage.

Zoom Technologies, 800-666-6191 www.zoom.com
Pagoo, 415-512-1207, www.pagoo.com

Creativity Run Amok

It's tough to stay cool about this, but we'll make a brave attempt. MetaCreations has released **KPT 6**, the most recent version of its KPT Photoshop plug-in series. These plug-ins give you creative effects for both print and Web design. The new package offers eight plug-ins and two bonus filters for $200 to be used with Photoshop or other compatible programs.

- KPT Materializer lets you create dynamic surface textures using bump maps, scaling (with tiling), panning, rotating, blur, and accurate lighting.
- KPT Gel let you use realistic 3D paint tools to produce a wide array of photo-realistic materials.
- KPT Turbulence lets you create real-time 2D wave distortions and ripples with a realistic fluid motion.
- KPT Goo lets you smear, smudge, twirl, pinch, or "finger paint" an image to produce effects or short animations, and many more.

MetaCreations, 800-846-0111
www.metacreations.com

Mind Yer Own ...

If you run a small business, chances are you already use, or are at least familiar with, **MYOB**, the accounting and financial management package.

Well, the new version, MYOB Accounting Plus 9 is out, in celebration of the company's 10th anniversary of developing on the Mac.

For $199, it offers improved integration with the Internet by letting you email reports, invoices, and purchase orders.

MYOB US, 800-322-6962,
www.myob.com/us

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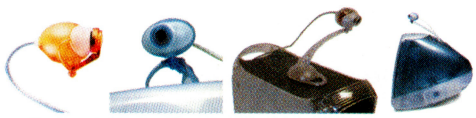

Closes up / Sets up on flat surfaces / Optional wand and base assembly

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iREZ™
Looking beyond the beyond...

Switch Betwixt and Between

Sometimes you want to share, and sometimes you don't have a choice — especially when it comes to sharing your single monitor, keyboard, and mouse between two computers. Dr. Bott has the solution.

MoniSwitchUSB, which is available in MoniSwitch2USB ($139) and MoniSwitch4USB ($199), are manual switchboxes that can switch both video and USB ports between either two or four computers. MoniSwitch does not limit the resolutions of the monitors, as the super-premium video cables included in the box allow direct connection to Power Mac G3 and G4 video ports.

USB keyboards, mice, hubs, and other peripherals are connected directly to the USB port built into the MoniSwitch. MoniSwitchUSB also includes USB cables to connect to the USB ports built into most computers.

For those with older Macs, a PCI Mac kit is available for both MoniSwitch models for $179 and $239 respectively.

Dr. Bott, 503-452-8101, www.drbott.com

Versatile Scanners

Targeted toward graphics professionals and photographers, Epson has released the **Expression 1600** scanner series, named in honor of its 1600 optical dpi. There are four varieties: Special edition for $799; Artist for $899; Pro for $1,099; and Pro FireWire for $1,399. All four models are networkable and support SCSI, USB, or optional FireWire interfaces. All models ship in mid-January.

All scanners in the 1600 series are of the flatbed-color variety with 1600 x 3200 dpi maximum hardware resolution, 36-bit color, and 12-bit grayscale scanning. Software includes the Epson Scanner Drive TWAIN Pro 1.7, TWAIN Pro for Network, Adobe Photoshop 5 LE, TextBridge Classic, NewSoft Presto! PageManager, and more. Optional features include FireWire ($299), an 8" x 10" transparency unit for negatives and slides ($299), and an automatic document feeder for 30 pages ($499).

Umax has introduced the Astra 4000U, a USB scanner for small offices, for $399. You can scan images as large as legal size at 1200 x 2400 dpi with 42-bit color using the company's proprietary technology. The scanner comes with a suite of software, including VistaScan 3.52, MagicMatch, Photoshop 5 LE, Caere OmniPage LE OCR software, and more.

Epson, 800-463-7766, www.epson.com
Umax, 800-562-0311, www.umax.com

A Hub Is Just a Hub

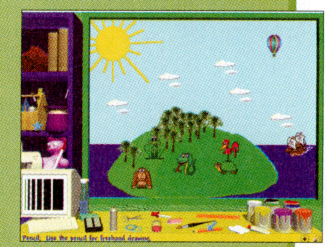
Well, that's what a lot of folks say, but XLR8 may have something special with its new **IceView Hub**. This 4-port USB hub, which comes in an "ice" color, sports a USB load meter for monitoring port usage, ensuring optimum performance from your USB peripherals. The load meter, which flashes a series of green, yellow, and red lights, assures that you won't overload your USB controller. This hub, at $40, is perfect for iMacs, iBooks, and any other USB Mac.

XLR8, 888-957-8867, www.xlr8.com

Painting for the Children

There are lots of painting and drawing programs out there, but not many are specifically aimed at children. Filling that void is Crescent Vision Interactive's *Discover Painting for Kids*.

This program, which costs $25, presents a familiar interface to children wherein everything on the screen can be clicked and used to create a picture.



The studio layout uses brightly colored images of common objects that children can easily recognize to represent the painting tools. The program features more than 30 painting and drawing tools, plus a library of 144 stamps, visual special effects, sound effects, and an expandable set of coloring pages and starter backgrounds.

But there's something in it for parents too. The program includes an option to conserve printer ink.

Crescent Vision Interactive, 504-779-9892, www.crescentvision.com

Hearing Voices

IBM has released ViaVoice Millennium Edition 1.0 for the Mac, a continuous speech recognition package, for $90. It is bundled with the NC-71 noise-cancelling microphone from Andrea. (See the January issue.) In other developments, MacSpeech has released PlainTalk-based ListenDo! 1.1 that gives you voice control over your Mac.

IBM, 888-411-1932, www.software.ibm.com/speech
MacSpeech, 978-355-4872, www.macspeech.com
Andrea Electronics, 800-442-7787, www.andreaelectronics.com

It doesn't come with a standard floppy drive.

After all, why would you want a standard floppy drive.

So you bought an iMac. And now you are in the market for a disk drive that will allow you the capacity to enjoy our multimedia world. Sounds like a plan.

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Who Do you Love?

The 1999 Readers Choice Awards

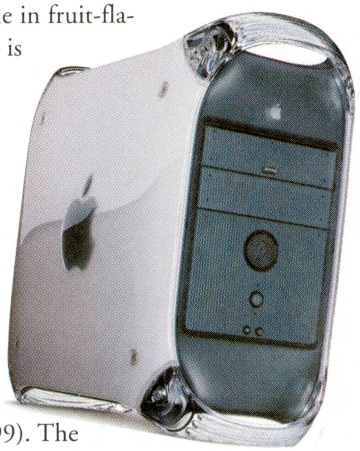
It's not often that the computer world listens to the end user.

Somewhere along the line, it seems the spirit of keeping the users happy got lost in all the gobbledygook about industry pundits and marketing experts. Not so in the Macintosh industry. In the Mac realm, we listen.

And the best part? Mac users aren't timid when it comes to expressing their fierce invididuality. Though we were taken aback momentarily by some seemingly out-of-place votes in several categories, such as the Performa 6220 for best computer (hey! what about the iMac?), we soon learned to accept the feelings of our readers with a warm, glowing and respectful embrace. Why, even that old dog of a browser/email product, Apple's CyberDog 2.0 (discontinued several years back) got a significant portion of the email client vote! And we say, heck, why not? Whatever gets you through the night is all right.

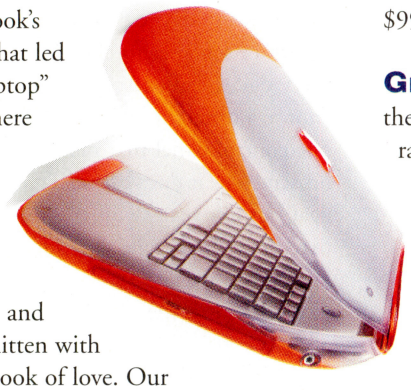
Mac users, it turns out, are opinionated. They'll vote their conscience no matter what the cost. To you brave freedom fighters, casting your vote for the Performa 6400/180, or for your LC III and IIci, even in the face of the amazing new wares coming down the pike, we salute you. Now, on to the real winners!

Desktop Computer: G4, Well, what'd you expect? The iMac DV? Ha! Let's see the iMac DV do a gigaflop! It may not come in fruit-flavored colors, but the G4 is freakin' fast. Faster than fast — the Flash would have trouble keeping up with this thing. The G4 holds its own in the looks department, too. It's much cooler looking than the G3 desktops of yore (which, by the way, was last year's winner and fell to third in the Great Race of 1999). The G4 is not only a Mac user's dream, either: Thanks to the sheer power of the G4 processor, even hardcore geeks and nerds are now perking up and taking interest. This is the computer that makes everyone drool. Of course, the competition isn't lame: The iMac DV still has



a strong following, and the lowly PowerMac 6100/66 got a vote as well. Cute.
Starts at about $1,500, Apple, 800-538-9696
www.apple.com

Laptop: iBook, This is a choice we couldn't agree on more. Just like its big, bad, reader-fave brother, the G4, the iBook is the stuff of technolust. Everyone wants one, be they Mac user, PC user, programmer, or technophobe. In fact, it's likely the iBook's popularity alone is what led to an entire "Best Laptop" category this year, where last year there was none. Apple was definitely correct when it asked, "Can a computer be sexy?" Oh yes, it can, and we are completely smitten with this little purse-like book of love. Our readers aren't immune, evidently, to the iBook's special little pheromones. It's one of the few things that causes our little eyelashes to flutter like butterfly wings on a windy day.



About $1400, Apple, 800-538-9696, www.apple.com

Scanner Manufacturer: Tie – Agfa/Umax Evidently, MacHome readers love to scan. In fact, scanners are among the top items they purchase to complement their Macs. And topping the list of scanner makers our readers like this year are Agfa and Umax. Both make a wide array of products; Agfa's $129 SnapScan Touch is a crowd-pleaser, what with its one-button process for scanning and emailing a picture. Agfa also makes the highly translucent 1212U, a USB device priced right around $100 that looks like something Jacques Cousteau might have found deep in the Marianas Trench. Umax, meanwhile, makes scanners for just about every need, from the sprightly 1220U (a winner in last year's Readers' Choice competition), a low-cost USB model hovering around the $99 range, to more-professional models such as the $499 2400S (a SCSI model) and the $399 4000U, another USB model.
Agfa, 888-281-2302, www.agfa.com
Umax, 800-562-0311, www.umax.com

Camera: Sony Digital Mavica
Frankly, we're bemused by this one. Despite the fact that Macs no longer include floppy drives, the Mavica, which stores its photos on floppies, wins for favorite camera two years in a row. Chagrined Reviews editor David Weiss demanded a recount, incredulous that a device that used "outdated" technology could have won. But it did. In fact, it won for the second straight year, so lest we appear too terribly disappointed, let's point out that the $599 MVC-FD51 and the $799 MVC-FD71 both store up to 40 JPEG-compressed images on a single floppy, or half that many in "fine" resolution. So if you're wedded to floppies (sigh), we can see why you'd want a Mavica. Digital camera stalwarts Olympus and Nikon, however, nipped closely at Sony's little heels.
$999, Sony, 800-342-5721, www.sony.com

Graphics Cards: ATI Rage 128 For the first time in memory this was actually a contested race. ATI's death grip on the Mac market is about to be contested by both 3Dfx and nVidia, the big bad wolves in the PC world. While the nVidia TNT2 was nowhere in our vote count (probably because it's not out yet) the Voodoo 3 from 3Dfx did receive a smattering of votes. But none could topple the ATI Rage 128. With its drivers finally finished, it's a force to be reckoned with, accelerating Photoshop and Quake in the same swift motion. There's nothing this powerhouse can't do, and with the newly arrived G4's, it's even faster thanks to the AGPx2 slots.
About $175, ATI Technologies, 905-882-2600, www.ati.com

Color Printer: Stylus 740, Epson Last year's color printer manufacturer of the year, Epson, stages a repeat in the same category, only this time, our readers got specific. And the Stylus 740 is definitely sweet. Its sister product, the 740I, comes in all the iMac flavors.

The twin powerhouses of Epson's bottom-rung inkjets outperform top-of-the-line printers from the likes of Hewlett-Packard, Lexmark, and Canon. And installing one of these puppies is a snap. Owning a Stylus 740 is like belonging to a secret club: All the members know that once you own one, you're never going back. It seems as though some of our voters filled out the ballot simply so they could vote for the Stylus 740. Now that's power.
About $250, Epson, 800-463-7766, www.epson.com

Removable Storage: Zip, Iomega
This one's a no-brainer and another repeat winner.

While Castlewood's Orb drive is darned nifty, it's not got nearly the support or distribution of the Zip drive. In fact, Zip drives have almost replaced the floppy drive. Only those who've braved the wonderful world of CD-R would disparage the Zip drive's proliferation. But what's not to like? They're small, fast, and now they hold 250MB! The new Zip 250 is even cooler looking than the original, and it's a snap to install. Now if they'd just put a power switch on it ...
About $200, Iomega, 801-778-1000, www.iomega.com

Word Processor: Appleworks

Appleworks wins for the second straight year in what some might consider a spite vote. Suspicion of Microsoft runs deep in the Macintosh community, and its force and spirit is matched only by our irritation with the little Mac Classic help guy in Microsoft Word 98. Indeed, a vast percentage of the votes for Word 98 were appended with quips such as "Grudgingly," "Sigh," or "Unfortunately." Thankfully, the fight against Microsoft is led by Appleworks, the heir apparent to ClarisWorks. It's quick, unobtrusive, and it doesn't do anything extravagant. Just what we want in a word processor.
About $100, Apple, 800-538-9696, www.apple.com

Email Client: Outlook Express

Spite votes for Appleworks aside, few readers were willing to compromise on their email application. Outlook Express makes managing your email a lot simpler thanks to great filters, simple folder management, and excellent newsgroup viewing capabilities. Some here at MacHome wish there were an option to exclude downloading attachments over a certain file size, but there's little else that can be said to downgrade Outlook Express. It was good enough, too, to beat out last year's winner, Netscape Communicator.
Microsoft, www.microsoft.com

Browser: Netscape Navigator

Well, the votes took a while to count, but the more results we got, the more soundly Netscape won out — and it's a three-peat! Netscape obviously is on its way to creating a dynasty among surfers looking for the scenic route. Microsoft Internet Explorer may be more stable, but it certainly doesn't make browsing the Web an enjoyable experience. Netscape just has that extra ounce of panache that gives it the edge. Plus, it's not made by Microsoft, which apparently is enough to make any voter jump up and down with giddy abandon.
Netscape Navigator, www.netscape.com

System Enhancement: Kaleidoscope

This is one piece of shareware no Mac geek should be without. It lets you customize the look and feel of your Mac to the point of making your desktop look like a piece of art. It's a favorite with at least one MacHome editor, and more are converting every day. Considering the fact that there's a wealth of schemes to choose from, with more added every day to kaliedescope.net, there's no reason not to choose a different look every day of the week. This is one control panel that makes the Mac look as good on screen as it does off screen. And it's free! This one beat out last year's winner, StuffIt Deluxe, proving that sometimes, style over substance is the way to a loyal reader's heart.
$25, Kaleidoscope, www.kaleidoscope.net

ISP: Earthlink

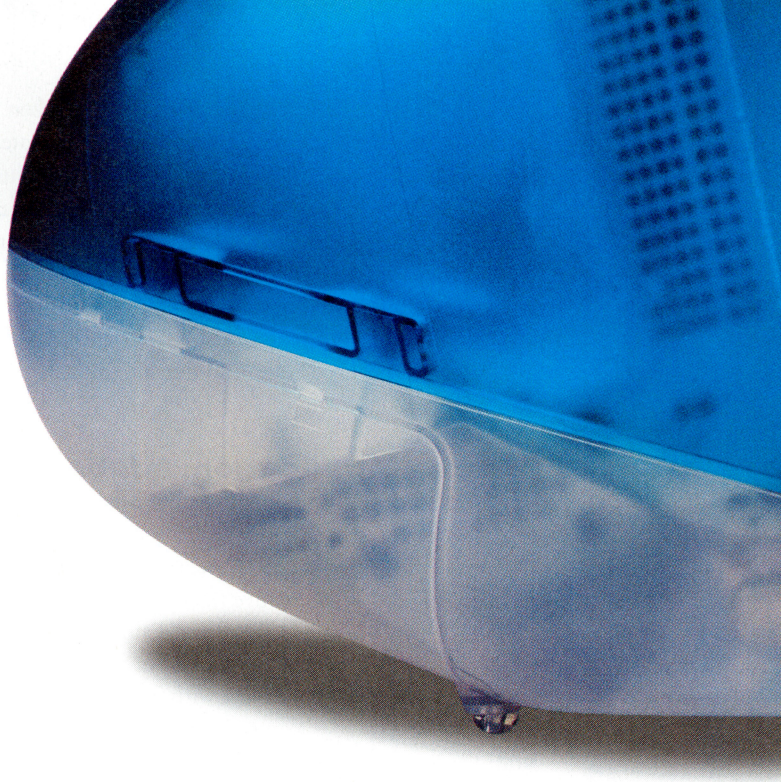
Earthlink deserves to win this category. It's one of the few Internet service providers that hasn't sold its soul in exchange for corporate bedfellows of questionable motives. Unlike AOL or Mindspring, Earthlink has remained true to its roots and kept the Mac as a beloved first-rate client. Whereas AOL has always been slow to release new Mac-compatible software, and its services sometimes ignore the Mac altogether, Earthlink has a Mac-friendly staff, tech support people who actually know what a Mac needs, and fast reliable service. Huzzah for Earthlink!
Earthlink, 888-327-8454, www.earthlink.com

Utility: Norton Utilities

This one came right down to the wire. Tech Tool Pro 2 is simply too powerful to be ignored. But tradition is a tough nut to crack, and Norton has been steadily improving with every new release. After a rocky start early in the year, Norton bounced back and started kicking some major butt again, and the momentum carried it to a second straight victory in this category. With a bundle of tools for almost any catastrophe, and some extras thrown in to help avert disaster, Norton Utilities is the "Break in case of emergency" glass we all need next to our Mac.
About $80, Symantec, 800-441-7234 www.symantec.com

Finance: Quicken 2000

This wasn't even a race. Again. Out of the 900 some-odd votes we



Laser Power for Generation i

Say hello to our iMac™ & G3 compatible Laser Printers and Multi-Function Centers.

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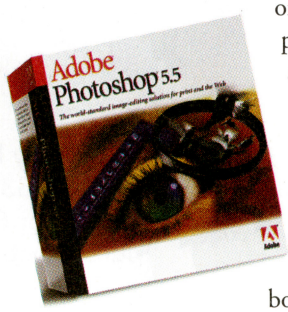
received in this category, only five weren't for Quicken 2000. Last year, the package got 71 percent of the vote, and we called that overwhelming. Quicken is easy to use, accurate down to the penny, and now you can sync it up with your Palm. With a copy of Quicken 2000 you can master your money before you accidentally spend it all on, say, some other finance software. And when it comes down to tax time, your butt is seriously covered.
$60 (tax-deductible!), Intuit, 800-446-8848
www.quicken2000.com

Creative Application: Adobe Photoshop Adobe Photoshop again walks away with top honors in this staple category of the Macintosh software industry. Sure, there's tons of stuff out there to keep your creative juices flowing: Bryce 3D, Poser, Painter, and a host of others, but what can compete with Photoshop for sheer power and ease of use? With Photoshop, a simple desktop warrior can become a full-fledged photographic wizard, deftly placing his or her boss' head atop the body of ugly nude models.

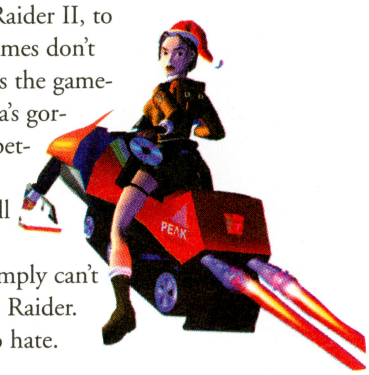


We ask you, would Photoshop have won again if it weren't a force for good as well as evil? We think not!
About $600.
Adobe, 800-833-6687, www.adobe.com

Learning: JumpStart Series This category, a new addition this year, spawned an understandable amount of confusion. Eventually, though, the JumpStart series of learning software emerged as a favorite of moms and dads alike. It manages to teach kids the basics of reading, writing, and 'rithmetic without driving parents insane with annoying characters and overly cutesy jokes. It's also a series that kids can grow up with: From preschool to sixth grade there's a JumpStart program for each year and just about every subject.
From about $20, Knowledge Adventure,
www.knowledgeadventure.com

Kids Creativity: Kid Pix, The Learning Company Barely edging out Disney Magic Artist Studio, Kid Pix deserves its repeat victory. It's every kid's dream art program: You can play with sound, colors, animation, drawing, painting, printing, paper dolls, cut-outs, and more. The only limit is time, as there's enough here to keep your little Picasso busy for weeks at a time. Everything makes sounds and moves, keeping kids stuck to the screen with more adhesive power than a roll of duct tape. Even the most hyperactive child can't leave Kid Pix alone. No wonder parents love it so much.
Broderbund, 800-521-6263, www.broderbund.com

Adventure Game: The Tomb Raider Series Oh Lara, how they love you so. And for that matter, how we love you so. From Tomb Raider Gold, to Tomb Raider II, to Tomb Raider III, the names don't change, and neither does the gameplay, but who cares? Lara's gorgeous, the graphics are better, and the games are more fun than a sack full of squirrels. No matter how much we try, we simply can't deny the allure of Tomb Raider. It's simply impossible to hate.



$50, Aspyr Media,
512-708-8100, www.aspyr.com

Simulation: Simcity 3000 What more can be said? If you've not played Simcity in its 10-year history, you must be some kind of Communist, TV-hating mutant. Well, at the very least, you're missing out, big time. Simcity 3000 is truly an elegant game, as our readers agree. Less a game than a city-sculpturing tool, Simcity 3000 plays out as the logical next step after Simcity 2000, a truly landmark game. With the newest installment, Maxis has brought back the addiction, challenge, and simplicity of what could be considered to be the best game series of all time. We're happy you agree.
$49, Maxis, www.maxis.com

Strategy Game: Myth II This was possibly the closest software race in the bunch. Myth II or Starcraft? It's nearly impossible to choose. On the one hand, Myth II is made by Bungie, meaning it's got an amazing storyline, great multiplayer support, and killer editing tools. On the other hand, Starcraft is made by Blizzard, meaning it's got an amazing storyline, great multiplayer support, and killer … well, gee. What can possibly be the deciding factor? Our bet is it came down to the ability to load total conversions for Myth II, which allows players to enter completely new worlds for online play. Plus, how can you not love a game that lets you slaughter sheep and chickens with reckless impunity?
$20, Bungie, 312-397-0500, www.bungie.com

Action Game: Quake II This was an interesting category, perhaps foreshadowing things to come. While Quake II won by a fairly large margin, the rest of the votes were mostly for Unreal, signaling that players are growing weary of the twitchy gameplay

that so defines Quake. But Quake II does deserve its victory. We here at MacHome gave it a pretty average review, but now that the game has reached maturity and been patched a few times, it's definitely better for the trials and tribulations it underwent. With a multiplayer standard to which all other games aspire, Quake II is the true king of Mac shooters. Well, it was: Quake 3 Arena and Unreal Tournament are out now and the real battle is about to begin. We can't wait for next year.
$45, Activision, www.activision.com

Fantasy Game: Cythera Ultima has long been a staple of the PC role playing game world. And Ambrosia has long been the Mac world's saving grace for games that don't make the transition to our platform. With Cythera, Ambrosia has brought us the timeless wonder of the Ultima world of role playing games in a Mac-friendly environment. Of course, the sailing wasn't smooth for Cythera, since you, dear readers, are such a discriminating bunch: Diablo was a close second, and Realmz made a weighty bid for the crown as well. But in the end, it simply came down to novelty: Both Realmz and Diablo are older games, and Cythera is the freshest bird on the table. Of course, Ambrosia's typical brilliance helps a lot too.
$25, Ambrosia, www.ambrosiasw.com

Overall Hardware: iMac DV The iMac DV was going to be in this list, we just weren't sure where. As it turns out, it's the coolest piece of hardware out there, according to you, our loyal readers. It's fast, translucent, streamlined, and quiet enough to put in a baby's room. It is the apotheosis of cool in the computer world, and it seems to know it. Yet the iMac DV is not a pretentious computer. Indeed, it's a computer for the average Joe and the high-end geek at once. It's powerful enough to do hard-core graphics work, and the DVD drive gives it a long shelf life on the obsolescence scale. From top to bottom this is the coolest desktop machine in the world, and thanks to its digital video capabilities, it's also the coolest machine on your TV too.
Starts at $1300.
Apple, 800-538-9696, www.apple.com

Overall Software: Adobe Photoshop
Ladies and Gentlemen, we have a winner. Photoshop is not only the graphics professional's tool of choice, but also the first choice of pranksters worldwide. Its dominance is obvious: the software is a three-time winner as Best Creativity Application, and it further asserts itself this year as Best Software In The Known Universe. Or something. It's hard not to adore it, as Adobe continues to add people-pleasing features to its flagship virtual darkroom. There's no end to the fun you can have with Photoshop, and no end in sight to its popularity.
About $600, Adobe, 800-833-6687, www.adobe.com MH

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PIXEL power

A Round-Up of Digital, Filmless Cameras

By David Weiss

Canon PowerShot S10

Epson PhotoPC 800

Epson PhotoPC 850z

Digital cameras bring the visual world to your Mac. And from there, you can print digital photographs using the brilliant quality of inkjets, or share them via the Web or email. Digital cameras aren't cheap, and they aren't getting much cheaper — although there are one or two exceptions. But they are becoming easier to use, and their quality is rivalling that of traditional film cameras. Here, we'll introduce you to eleven cameras that are under a grand.

Film or No Film?

With traditional film, you can enlarge your pictures to any size you wish, and they'll remain sharp and clear. But digital photographs, because they're made up of computer-designated dots of color, have a limit — exceed that limit, enlarge a digital photograph to an enormous size, and you will see the big ol' jaggedy boxes of color that make up your picture. Also, digital cameras, being tiny computers that record light and convert it to digital files that it stores on tiny disks, need a little time to "recover" between shots, unlike their traditional counterparts. But if you intend to process your photographs in any way on the Mac, be it for sending off by email or for polishing your work in an image-editing application or desktop-publishing program, a digital camera eliminates the entire scanning process.

What to Look For

The two most important things to look for in a digital camera, aside, of course, from price, are resolution and zoom — working together, these two fac-

tors make up most of what results in the quality of your images.

Resolution describes the amount of detail that a camera is able to capture, and this is dependent on the number of pixels in its "charge coupled device" (CCD), which acts as the camera's "eye." The higher the pixel count of the CCD — usually expressed in "megapixels," for each million pixels — the higher the resolution of the pictures you'll be able to take with that camera. Let's say you take a picture with a 1.5 megapixel camera and a 2.3 megapixel camera, and bring them both into your Mac. When you open each with an image-editor, such as Adobe Photoshop, they will both have a print resolution of 72 dots per inch (dpi), but the one taken by the 2.5-megapixel camera will be much larger when you print it out. If the subject matter is the same, the larger picture will contain more detail and, of course, can be enlarged much more than the smaller one without appearing pixelly. Take a look at the flowers in Figure 1. The one on the left was taken with a lower-resolution camera.

The zoom factor refers to the magnification powers of an optical zoom lens. A "2X" zoom lens can enlarge your subject by two. The higher the magnification level, the more valuable, and hence more expensive, the camera. Less expensive cameras don't have any zoom capability. With an optical zoom lens, you have many more potential shots, simply because your camera can "see" more. But don't be fooled by cameras with digital zooms. With a digital zoom, all you're doing is enlarging the image that you see in the camera's digital "viewfinder," or liquid crystal display (LCD) — this won't change your picture quality a whit.

After image quality, there are a host of other things to consider, including the camera's controls, the type of batteries a camera comes with and whether or not they're rechargeable, any special effects that a camera is capable of, and other niceties that a camera manufacturer might throw in the box for you — an AC cord to ease the drain on the batteries, or a case to make you feel more stylish as you tote your camera around.

Budget Cameras

Let's Start by introducing the most affordable digital camera as of press time, KB Gear Interactive's $99 JamCam. This little wonder doesn't necessarily fit in with a round-up of "serious" digital cameras, but it does hold its own, so we threw it into the fray. It's simple — the only buttons that grace its bright yellow-and-black rubber case are a Shutter button and an On button. It's the only camera reviewed here that doesn't have a built-in flash. A numeric LCD tells you how many photos you have left, and a tiny optical viewfinder shows you your subject. A USB port connects the JamCam to your Mac, and the Mac software (which I had to download) makes it easy to transfer photos. It doesn't use disks; rather, it can hold eight of its highest-quality photos (with a resolution of 640 x 480) in its on-board memory. The picture quality is not that good — certainly, compared to the others reviewed here — but it's not too shabby for close-range, well-lit subjects. They're fuzzy and low in contrast, but they're serviceable for fun, immediate photography. It even has a tripod mount; all of the others do, too, but for a $99 camera, we thought this was impressive.

Ricoh RDC-5300

Sony Cybershot

Unfortunately, the additional software it comes with — for adding funky backgrounds to your images — is Windows only. It uses a nine-volt battery that was not included.

For $349, Epson's PhotoPC 650 is another bare-bones camera, but it's a good deal more serious than the JamCam. It has no zoom, but we wouldn't expect to find one on a camera that costs less than $500. But it provides pictures that are noticeably sharper and more colorful than those of the JamCam, made possible by its megapixel CCD that can provide resolutions of up to 1152 x 864. The PhotoPC 650 stores its pictures on an 8MB compact flash card — a small plastic disk no larger than a postage stamp. To get the pictures into your Mac, it provides a Lexar JumpStart cable, which is a tiny compact flash drive that connects to your USB port. And this works quite well — when you pop the card into the JumpStart cable, it appears on your desktop just like any other disk.

Kodak DC-240i

Midrange Cameras

Sony's $599 CyberShot DSC-F55 is an exotic camera; it's got a lens that you can rotate, so that you can gaze down into the LCD as though it were a compass or point the lens right at yourself for easy, narcissistic, self-documentation. This camera further distinguishes itself by being able to capture movies. And although the quality is a bit rough, it's a fun, easy way to send little movies to people — a short, seven-second clip of yourself waving to your co-workers from a beach in Hawaii, complete with sound, will take up only about a half a megabyte uncompressed, suitable for emailing. But you do have to sacrifice for such whistles and bells, for it lacks a zoom lens, something I would definitely want in a camera for its price. It also lacks an optical viewfinder, which is a simple but profound liability — in bright sun, I found the LCD to be hard to see, and without an optical viewfinder to fall back on, I couldn't take the picture. Its image quality was certainly better than the PhotoPC 650, which came as no surprise, since it's got a 2.1 megapixel CCD, which is a higher resolution than some of the more expensive cameras. It allows you to create special effects in the camera, such as creating a sepia-tone look of old-time photos. The CyberShot also makes use of a cool Sony battery technology called "Infolithium" — this is a rechargeable battery that comes with a battery charger, and the "Info" part of Infolithium means that it tells you exactly how much time you have left on the battery, right on the camera's LCD. Unfortunately, its connectivity is a bit limited — it stores its photos on a 4MB Memory Stick, a special Sony disc format that you can also use with Sony's printers and "Photo Frames," which sit on a shelf and show digital photos. But currently, the only way for a Mac user to get photos from a Memory Stick is via a PCMCIA adapter, and only PowerBooks have PCMCIA slots. Other Macs will need a PCMCIA reader. Microtech (www.microtech.com) sells one for about $200.

We checked out four cameras for $699: Canon's S10, Epson's PhotoPC 800, Kodak's DC240i, and Ricoh's RDC-5300. They all use USB.

Canon's S10, is a small, rugged, metal-encased camera. But don't let its small size fool you — it's souped up with a 2X optical zoom lens. Its CCD can capture 2.1 megapixels, capable of supporting resolutions of up to 1600 x 1200. With good

Cameras	Price	Maximum Resolution	CCD (# of pixels)	Picture Quality	Key Additions	Rating
Sony CyberShot DSC-F55 800.222.7669 www.sony.com	$599	1600 x 1,200	2.1 million	Very Good	4MB Memory Stick, can take short movies, has rotating lens	
Kodak DC240i 800.235.6325 www.kodak.com	$699	1280 x 960	1.3 million	Fair	Complements the iMac look, 3X optical zoom, cool case, 4 rechargeables with charger, 10MB Compact Flash	
Kodak DC265 Zoom 800.235.6325 www.kodak.com	$899	1356 x 1024	1.6 million	Fair	Digita, 4 rechargeables with charger, mic, 3X optical zoom, 16MB compact flash	
KB Gear Interactive JamCam 612.941.1905 www.kidboard.com	$99	640 x 480	Fewer than a million	Good for the money	Stores 8 pictures on board, even has a tripod mount.	
Epson PhotoPC 850z 800.463.7766 www.epson.com	$799	1984 x 1488	2.1 million	Very Good	3X optical zoom, 4 rechargeables included with charger, external flash support, added lens support, 8MB Compact Flash	
Epson PhotoPC 650 800.463.7766 www.epson.com	$349	1152 x 864	1 million	Good for	8MB compact flash card plus the money reader	
Epson PhotoPC 800 800.463.7766 www.epson.com	$699	1984 x 1488	2.1 million	Good	Mic, soft case, 4 rechargeables included with charger, 8MB Compact Flash	
Canon PowerShot A50 800.652.2666 www.canon.com	$399	1280 x 960	1.3 million	Good	Very small, comes with 8MB compact flash card, 2.5X optical zoom, in-camera photo stitching	
Canon PowerShot S10 800.652.2666 www.canon.com	$699	1600 x 1200	2.1 million	Very Good	Very small, comes with 8MB compact flash card, 2X optical zoom, in-camera photo stitching	
Ricoh RDC-5300 702.352.1600 www.ricoh.com	$699	1792 x 1200	2.3 million	Excellent	8MB on-board memory plus SmartMedia slot, appears on desktop, lens cover, 3X optical zoom	
Samurai 2100DG Kyocera 800.576.2600 www.kyocera.com	$899	1632 x 1232	2.1 million	Very Good	Oriented like a camcorder, 4X optical zoom, 8MB Compact Flash	

resolution and a decent zoom, this camera was able to capture some pretty stunning images. It comes with an 8MB compact flash card and connects to your Mac via a USB cable. It comes with a proprietary, non-rechargeable battery which costs less than $10, and you can purchase a Power Pack that contains a rechargeable battery, charger, and AC cord that can be connected to the camera as well as the charger, for $99. The PowerShot has got some great touches — right inside the camera, you can stitch together photos to create huge, wide panoramas. When you view your pictures, you can zoom in and move around them, to better see what you've taken when you're on the road. And it's got a four-position thumb-toggle switch that also acts as a clicker, which makes it very easy to get around the camera and change settings. If you don't want to spend this much money, Canon also offers the PowerShot A50, which, for $399, only provides a 1.3 megapixel CCD, but be forewarned — this one uses serial, so you'll have to get a converter to use with a USB Mac.

Figure 1: The above pictures illustrate the difference that resolution makes.

Epson's PhotoPC 800 is about the same, small size as the PowerShot, but it has no zoom, and for this kind of money, you'll want a zoom. Its controls are also far more awkward, for it lacks the PowerShot's cool toggle control, and instead makes use of more traditional (i.e., confusing) dials and push-buttons. Its 2.1 megapixel CCD can provide pictures of up to 1984 x 1488 pixels, and it certainly held its own in terms of image quality, for those subjects that were within its range. Unlike the PowerShot, it's got a mic for adding voice annotations to your photos, but it lacks the groovy in-camera effects. It comes with an 8MB Compact Flash card, a soft pouch, and four rechargeable batteries with a charger.

The Kodak DC 240i is an eye catcher, since it comes in five different, translucent Mac colors. It sports a 3X optical zoom, which is great, but doesn't provide exactly stellar resolutions: its 1.3 million pixels can capture photos that measure 1280 x 960 pixels, and that would have been impressive a year ago. With the zoom, it's able to capture an impressive array of pictures, but overall, they come out fuzzier than those of the cheaper, higher-resolution cameras. But it's got a nice, colorful interface with friendly, handwritten fonts, in marked contrast to the Spartan, "machine-coded" look of the interface in most other digital cameras. It comes with a 10MB compact flash card, so it can hold a bit more pictures than many of the other cameras featured here, and it ships with four rechargeable batteries and a charger. It's got some special effects built into the camera, such as the ability to add borders to your photos. The 240i also comes with a nice, full-fledged padded case.

Next we come to Ricoh's RDC-5300, a camera that's special in many ways. It has a 3X optical zoom, but that's not so surprising. And its 2.3 megapixel CCD can crank out pictures that measure 1792 x 1200, but that's not so surprising either. First off, let's just say that not only were its photos consistently sharper and clearer than the photos of every other camera in its price range, but its photos often rivaled those of the more expensive cameras. Second, it's the only camera listed here that has both on-board memory plus a disk drive. It's got 8MB on board, and it also has a SmartMedia drive for adding additional memory. So you can pack this puppy up with many pictures. It also has a protected LCD, which slides open when you turn the camera on — a nice touch. And finally, it's by far the easiest camera to connect to your Mac — just plug it into a USB port, and it appears on the desktop, just like a disk. This camera comes with a humble but serviceable case, as well as an AC cord, which is always a nice touch.

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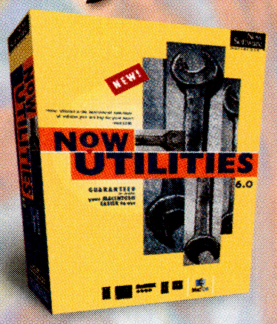

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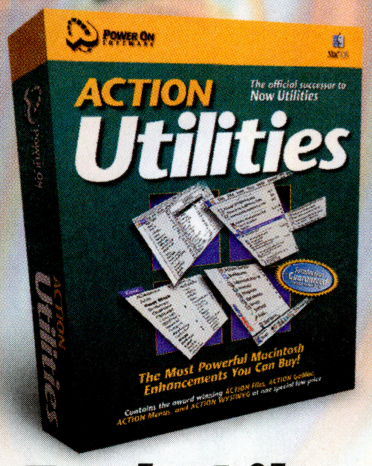

Feels Like Old Times.

Your old friends have gotten more than a facelift–they're completely rewritten and Mac OS 9 compatible. Each one is great separately, but together they're terrific (and an incredible value)! ACTION Files helps you organize files and folders automatically. ACTION Menus lets you arrange, create, and control your menus with ease. ACTION GoMac, The Macintosh Taskbar™, will amaze you. And ACTION WYSIWYG shows your fonts and typefaces right in your menus. Makes you all tingly just to think about it, doesn't it? Stop in and try them out–no strings attached. Hey, that's what friends are for.

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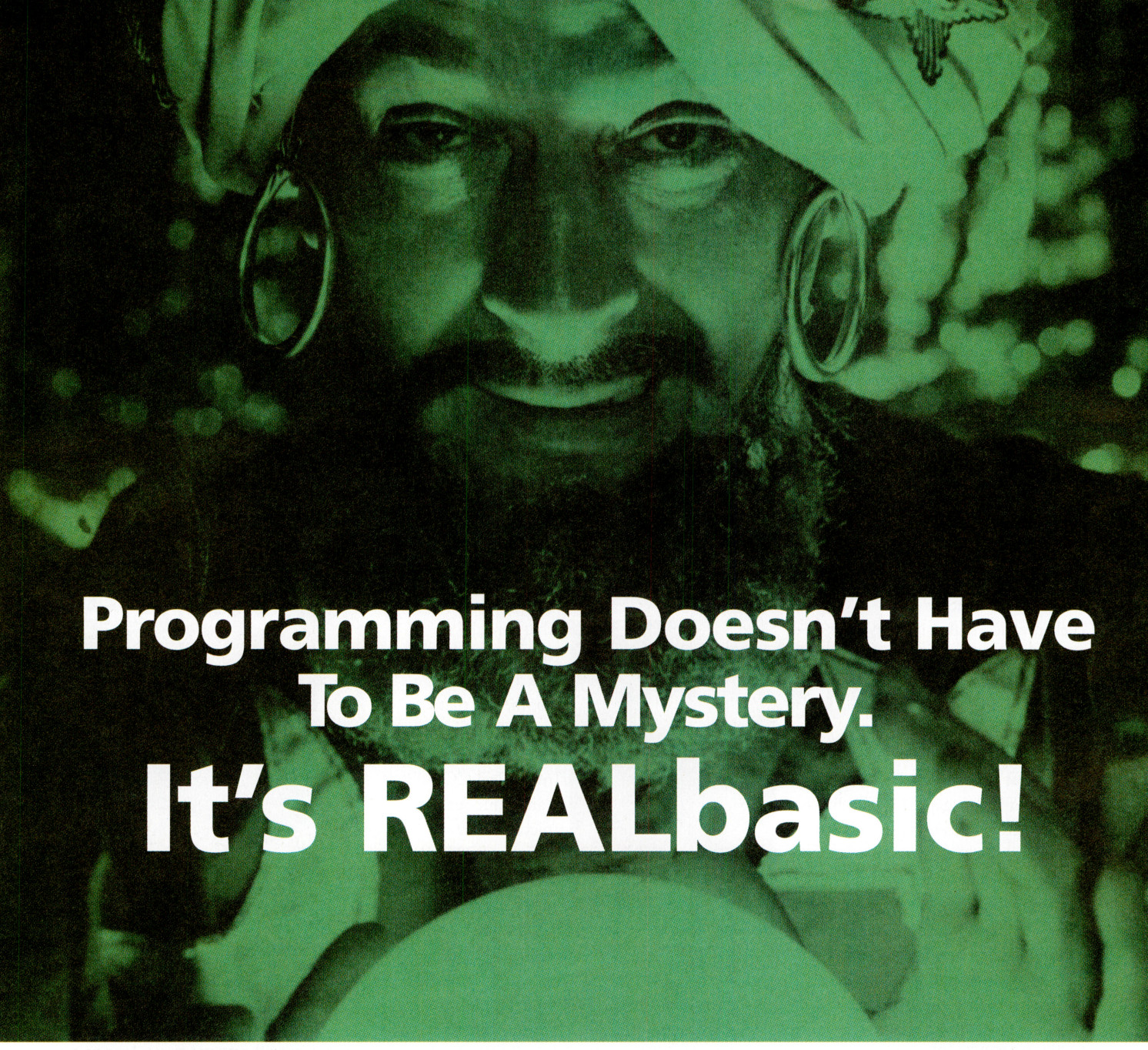

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Glitzy Cameras

Moving into the upper reaches, we find the Epson PhotoPC 850z for $799, and for $899, Kodak's DC-265 and Kyocera's Samurai 2100DG. These are have zoom lenses.

The 850z looks most like a traditional camera of all the others reviewed here. It's large and serious looking, with a 3X zoom lens that juts out from the body. Rather than using an effete wrist strap, the 850z sports a macho neck strap, as if to say, "Look out, world, here comes a photographer." By means of a screw-on adapter, you can add standard filters, and you can add an external flash using a standard flash adapter. Aside from these features, it's similar to its cousin, the 800, in all other respects: resolution, batteries, and media.

Kyocera's Samurai 2100DG takes an interesting slant on design — it's a still camera that's shaped like a camcorder, and you hold it like one as well. But that's partly to account for its 4X zoom: This "long" design enables the lens to move back and forth inside the body of the camera. Its 2.1 megapixel CCD provides very good pictures — which measure up to 1632 x 1232 — especially in concert with its excellent zoom lens. Its controls are a bit clunky, however — it takes no fewer than 16 steps in order to set the white balance.

Kodak's DC-265 is kind of an oddball — it's got a large, squarish shape. It's endowed with a 3X optical zoom, but it's hindered by a comparatively low resolution CCD: It can capture 1.6 million pixels for pictures with resolutions of up to 1356 x 1024. Its photographs, probably due to this difference in resolution, came out less stunning than some of the less-expensive cameras. But it does have the same cool thumb-toggle that comes on Canon's PowerShot cameras, which is a boon. It also comes with a whopping 16MB compact-flash card, for storing lots of pictures. This is also the only digital camera reviewed here that supports Flashpoint's Digita Operating System. Like the Palm Operating System for Palm Connected Organizers, the Digita Operating System has both a camera and a Mac component. You can download Digita applications from the Web and install them to your camera using the Digita Desktop software. Such applications range from the seriously cool, such as "optical yardstick" software that can "measure" how far an object in your lens is, to the seriously silly, such as tic tac toe games that you can play on your camera.

Which One's for You?

The clear standout, in terms of price, performance, ease of use, and picture quality, is Ricoh's RDC-5300. Taking a close second, Epson's 850z is a very well-endowed camera with many professional features, and Kyocera's Samurai 2100DG is another fine contender that sports an impressive zoom. Kodak's DC-265 is an enticing gadget, since it supports Digita, but it could be made more enticing if it provided a higher resolution. Moving down in price, Canon's S10 is a great camera with excellent controls, effects, and resolution. Sony's CyberShot is an interesting camera, and if it provides more options for downloading pictures, it could be an excellent all-around Mac peripheral. Even the humble JamCam has got that. Kodak's 240i is a looker, but like the 265, it could use a higher resolution for the money. The Epson PhotoPC 800 is certainly a good camera, but it doesn't hold a candle to the RDC-5300, since it lacks a zoom and many of the 5300's other wonders. For $349, Epson's PhotoPC 650 will certainly be acceptable, but you might end up yearning for something better. Rather, the JamCam is an excellent point-and-shoot solution for wacky, spontaneous photos, and it will get you by until you can afford a less-humble camera. MH

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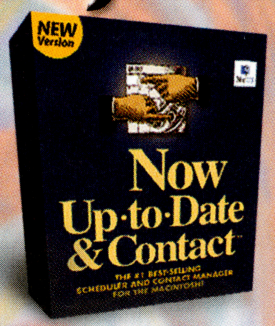

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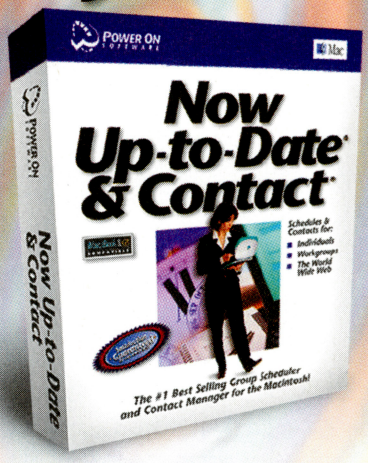

You're Not Imagining Things...

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Walking on Air

Cruising on Apple's Wireless Network

The iBook doesn't like to be chained to a desk — it likes to roam free, unfettered by its power cord. But the iBook need not be fettered by *any* cord; it was the first Mac to support AirPort, Apple's *wireless* Local Area Network (LAN). With AirPort, an iBook can transfer files between Macs, access printers, surf the Web, and get email, without a single wire dangling from its curvy little case.

By David Weiss

Station to Station

The AirPort network is made of two components: AirPort cards, one for each computer on your AirPort network, and an AirPort Base Station, which sends and receives signals to and from each of the cards. The Base Station has a 10BaseT Ethernet port, for connecting to "wire-bound" Ethernet networks, and a 56K modem for dialing out to an Internet Service Provider (ISP).

The Base Station is a small, shiny object that looks not unlike a spaceship from a 1950s sci-fi film. Its Ethernet, power, and phone cords flow out the back, and on the front are three status lights, which glow red or green, flashing or steady, to tell you if the station has power, whether the Ethernet port or modem is being used, and if data is being transferred. You can place the Base Station on a level surface, or you can mount it on a wall by means of an included bracket. AirPort has an estimated range of 150 feet, so you'll have many choices of where to put the Base Station. But ideally, you'll want to place it in an open area, free of interference — down in the basement behind the gas meter would probably not be the best place.

Along with the iBook, you can also install an AirPort card in any of the newest breed of Macs

— the "quiet" iMacs and iMac DVs (those released in October of '99), as well as the G4 series. An AirPort network is designed to support up to 10 Macs, but we only had two AirPort-capable Macs on hand — an iBook and an iMac DV.

Cleared for Takeoff

Setting up the network was relatively easy, although I did encounter a hitch or two. After installing the software and AirPort card in an iBook and plugging in the Base Station, I ran the AirPort Setup Assistant to configure the Base Station. It will ask you various questions about how you'd like to access the Internet, and it will allow you to assign a password to the AirPort network as well as a password to the Base Station.

The Assistant takes the current Internet settings and uses them for AirPort, but if you have multiple configurations set up on your Mac (such as one for your home ISP and one for the Ethernet network at work), it can be difficult to change configurations once you've run the Assistant. It's best to make sure your Mac is set up exactly as you want it for Internet access, and test it out, before you begin configuring the Base Station.

The AirPort Assistant doesn't exactly "hold your hand" through the entire process. At one point, for example, the Assistant asks if you're already set up for Internet access. If you answer Yes, it will use the active settings, but if you don't, it will throw you out to the Internet Setup Assistant, without bringing you back to the AirPort Assistant once you're done.

Having run the AirPort Setup Assistant, you can make further changes by means of the AirPort Utility, a small program that gets installed into your Apple Extras folder. With this utility, you can test the signal strength of each of the Macs on the network. It will rate the quality of your connection as weak, average, good, or strong, and it displays two "barometer" readings, indicating the strength of signal and noise level.

But the utility has some clunky aspects. One tab, which shows settings for configuring TCP/IP (transmission control protocol/Internet protocol, or, the way in which your computer speaks to the Internet), always shows the default settings, even if you changed them to something else. This caused me no end of confusion, and Apple representatives assured me that even though the control panel showed the default settings, the Base Station had received the last settings I sent to it. That is all well and good, but the control panel should show the current settings, not the default settings.

A Bridge to Ethernet

Once AirPort was up and running, it worked flawlessly as a wireless bridge to our regular Ethernet network here at *MacHome* headquarters, which in turn is wired to a T1 connection to the Internet. We walked the iBook out of our fifth floor office, and escorted it down the stairs, surfing the Web. We managed to get down to the second floor before we got the message that there were no AirPort Base Stations within range. We thought that was pretty good — it's unlikely that many homes are going to have more than three stories, and AirPort was able to maintain this connection through many walls and steel girders.

Also, the AirPort network consistently offered good data-transfer speeds. I copied files back and forth without wires, and I found the speeds to be similar to those offered by our regular 10BaseT Ethernet network — slower at times, but faster at others.

Dial-Up

For dial-up connections to ISPs, AirPort was a little less than stellar. For one thing, the Base Station's modem has no speaker. And although you're not harassed by the whining, screeching sounds of the modem attempting to connect with another modem, it's also a hindrance, because the AirPort software offers no feedback on connection status, as you get using Apple's Remote Access software for traditional dial-up connections. And feedback is tremendously important. At one point, I had a typo in my AirPort/Internet control panel, but it took me several hours to figure this out. Instead of getting the message, "Login Invalid," which I would get if I were dialing into my ISP with Remote Access, I tried to surf the Web and got nothing. I then eventually got the message, "Unable to locate host." But I could have saved many hours had I gotten some more detailed feedback.

Even when AirPort is working properly, you don't get feedback on your dial-up status. The first time you attempt to surf the Web, it will fail — you'll get the "Looking up host…" message in your Web browser, then you'll get the message that it's unable to find it. In this case, the message is "normal" or at least expected — what it's doing, at that point, is dialing, but you have no way of knowing that. Then, when you immediately try again to access a Web page, you'll have success. Clearly, a little feedback is in order here.

Two Macs can share the Base Station's modem, surfing at the same time with only minimal sluggishness, since Web pages are composed of lots of little files. But during long, steady downloads, the situation radically changes — one computer's connection will grind to a halt.

Unfortunately, we found that AirPort is not compatible with certain ISPs — or, at least, with certain ISPs' access numbers. After successfully testing out an account with Best, using the iBook's internal modem, we were unable, after repeated attempts, to connect to the same ISP using the Base Station's modem. Using another ISP, connecting was not a problem.

Take to the Air!

AirPort, despite its one or two clunky aspects, is an relatively easy and flexible way to connect your Macs, and it provides excellent transfer rates. The freedom it affords to iBooks is especially inspiring. If you have a deck, picture yourself lounging outside in the sun, surfing the Web — it's a very nice picture indeed. MH

rating

AirPort

Base Station, $299; Cards, $99 each; Apple Computer
800-538-9696
www.apple.com

Inexpensive, excellent range, good performance, cool-looking Base Station

Provides minimal connection feedback, software is clunky, modem is finicky for some dial-up connections

Rocket Thrust!

(and Other Cool Science Stuff)

By Josef "Science Man" Martha

Unfortunately, I still remember some of my high school science classes from oh-so-many years ago. As the teacher in his chalk-stained green polyester suit scratched endless notes on the blackboard, I dreamt of more exciting things such as rocket blasts, feeling myself float in outer space, or better yet, car crashes! At about this point, the teacher would throw an eraser at my head.

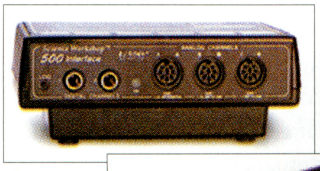
It's weird how things come full circle. Now I'm not only a science lover and hobbyist but I teach it to middle- and high-school students. My own experiences of classroom boredom helped me decide to do everything in my power to make science exciting, modern, and topical, although I probably dress just as badly as that teacher I remember.

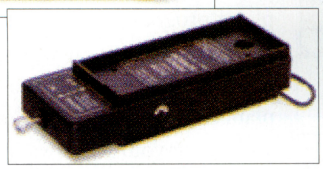
Thankfully, all along I've had a trusty Mac at my side. The Mac platform provides countless fascinating ways to dive deeply into science and stay immersed for hours of exploration, learning, and outright "Holy Goat Cheese, Batman" excitement!

Science Interfaces

Let's start with that rocket blast daydream. How could you measure the explosiveness of a rocket blast? Easy! I'm lucky to have iMacs in my classroom, along with some neat-o equipment to help get science data into the computer. It's called interface equipment; simply put, they are little boxes that allow you to connect all sorts of scientific sensors to your computer. Several companies

make science interfaces that connect right to your Mac. Check out Vernier (www.vernier.com) or Pasco (www.pasco.com); they are among the best. Keep in mind that if you have an iMac, you'll need a USB-to-serial adapter. I find it a little frustrating that these companies did not anticipate the move to USB, but on the bright side, USB units are in the works. I use Pasco interfaces in my class — they work great and have excellent, easy-to-use software included for free.

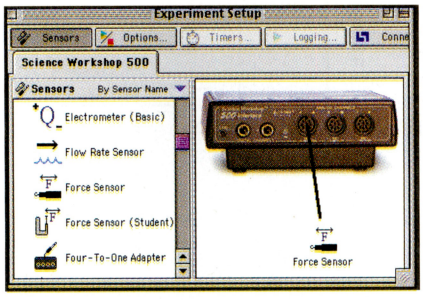




Pasco's model 500 computer interface with force sensor, below

What I really like about the Pasco's Science Workshop 500 (about $470 with an assortmant of sensors) interface is that I can disconnect it from my iMac and log data outdoors if I want to. I learned the hard way that it is not wise to ignite rocket motors indoors. On the other hand, I now know that our school alarm system works well.

Back to the rocket. Plug a force sensor into the interface. Then, with the help of a handy-dandy bracket, attach the rocket engine you've picked up at your local hobby store to the force sensor.



Hooking up the interface and force sensor

I use Pasco's powerful and versatile *DataStudio* software (you can download a demo from *www.pasco.com*) to set this lab up in a few seconds by simply dragging and dropping the sensor I want to use.

Now to the fun part. Disconnect your interface from the computer, take the whole set-up outside, and attach the force sensor to something solid (yes, I almost sent one into orbit). Now, press the log button on the interface and light the rocket — and stand back!

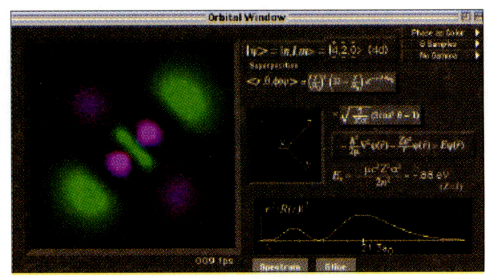
When you're done clearing the rocket fumes from your sinuses, head back to the Mac and download the rocket thrust data. If you look at the data in graph form, the rocket thrust will stick out like Shaquille O'Neal at a kindergarten!

Physics geeks like me use the statistical functions included in *DataStudio* to perform an integration on the curve, instantly calculating the impulse of the rocket. Check the package the rockets came in; they usually state the impulse the engine should deliver. Did the engine deliver as promised?

I find that students relate much better to scientific data if they can see it come up on the screen in real time. A bonus with this software is collecting highly accurate data and displaying it different forms at the same time. For example, collecting temperature data in a graph, digital readout, and table of values.

So you want to understand quantum mechanics, do you? Good, because if you figure it out, I'd love to have you explain it to me. One program that might help — *Atom in a Box* — does a great job of simulating what an atom might look like. This program ray traces pictures of orbital clouds based on wave function-probability density. Huh? To put it more simply, where is that frisky little electron?

Programmer Dean Dauger rubs in the incomprehensibility of the mathematics involved by including the statistical formulae on the interface with the ray tracing — thanks, Dean. So if you are a little slow like me, just sit back and enjoy the beautiful tracings of the orbital clouds.

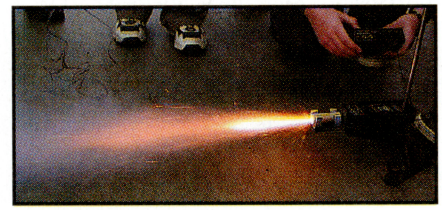


Sub-molecular: Atom-in-a-Box

Mr. Dauger has gone to the trouble of including a red/cyan viewing option that will allow you to see the tracing in 3D if you have some red/green 3D glasses handy. I don't pretend to understand all the intricacies of this program, but when you grab the orbital display and give the atom a spin, it is simply irresistible. Download this $20 shareware gem at *www.physics.ucla. edu/~dauger/orbitals/index.html.*

Need lots of atomic information? Then you need *The Atomic Mac.*

Available for download at *www.blackcatsystems.com/software/atomic.html* at a price of only $25, this reference program delivers on many fronts. The idea behind it is simple: Present a periodic table interface and allow the user to choose the atom information they need.

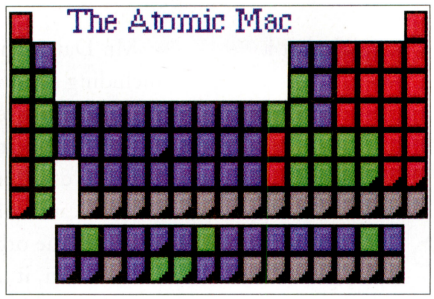


Firing the rocket to measure thrust

If you want info on a particular element, simply click on it. You can also choose isotopes, physical, shells, x-ray, and miscellaneous information. Each displays relevant goodies about the particular element that you have clicked on. For example, the "shells" choice displays a great diagram of the atom along with orbital electron configuration.

The Atomic Mac really shines when it is used to compare the elements. By choosing a category from the View menu, the main window will change into a display that illustrates the difference between elements using a color scale.

For example, choosing "state" yields a display that responds with colors representing the different states of matter when you move a temperature slider bar. The actively changing displays of



Celsius, Fahrenheit, and Kelvin make it easy to understand the different temperature scales.

Need to consult *The Atomic Mac* often but don't want it taking up room on your desktop? No problem. The table display can be conveniently shrunk until you call upon it.

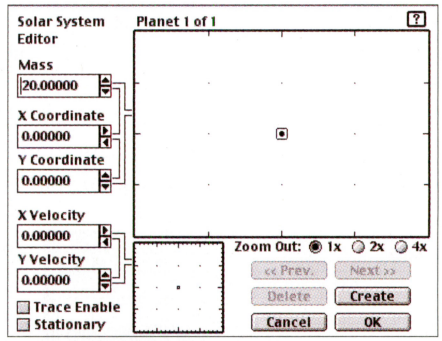
View from Above

If you are an astronaut wanna-be or you just want to get that floating feeling, you'll want to check out the Lunar Software Website (www.lunarsoft.com) and download *Planet Earth*. No, you're not downloading the whole planet, just a program that puts a gorgeous spinning globe on your desktop.

You are allowed to try *Planet Earth* out for two weeks, but then you'll have to cough up $30 if you want it to remain fully featured. Be warned; it's highly addictive and you will miss it when it's gone. The globe display is terrific by itself, but *Planet Earth* can also provide an accurate display of cloud cover from the Internet and update it every hour if you wish. The cloud feature comes in handy when studying weather patterns. If you're a storm tracker or weather freak, you can stay right on top of the latest hurricane or low-pressure system bearing down on your part of the world. *Planet Earth* also serves as a geographical aid; the display is studded with cities. If you mouse over a city, you'll get the time of day it is there. When you're through zooming in and out of the display and rotating the globe in every direction you can think of, let *Planet Earth* take over and fill your whole desktop as your screen saver. This is a five-star fun and educational tool.

Earth: I can see my house!

If staring at a globe is not enough and you wish to nurture your God complex, there are a couple of programs that will allow you to move planets around and create your own little solar systems. One of these is a real oldie and hasn't been updated for a few years; it's called *Gravitation*, and with it you simulate asteroid swarms, meteor showers, satellite trajectories, and just about any other heavenly body. *Gravitation* doesn't win marks for appearance; the planets look exactly the same as the asteroids and the program does not run in a window; it takes over your whole desktop. The background is unalterable, so you'll have to be content with black. However, *Gravitation* has easily accessible controls in an excellent solar-system editor.



Plain but functional: Gravitation in action

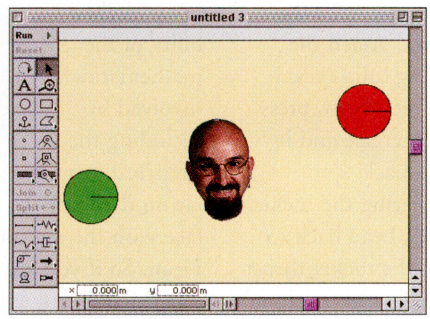
The editor gives you precise control of orbital velocities and object masses. If you're the kind of person who loves a test of your abilities, download this program (http://hyperarchive.lcs.mit.edu/HyperArchive/Archive/sci/gravitation-ltd-50.hqx) and try the following challenge that drives my students crazy. Build a stable solar system with five planets orbiting a "sun" (just anchor a massive object at the center of your system) and have at least one satellite orbiting one of the planets. Good luck and make sure you send away your $29 shareware fee if you keep using *Gravitation*.

Another free demo worth downloading is *Newton's Aquarium*. Eureka Software (www.eureka.ca) bills *Newton's Aquarium* as a solar system construction kit and charges $28 for a user license. This package is a lot slicker than *Gravitation* in the sense that it will run in a window, has an easy-to-use tool bar, different symbols for different celestial objects, and comment windows that provide clear explanations for the provided sample universes. However, I find the process of editing my own solar system to be tedious due to separate windows for each object.

Car Crashes

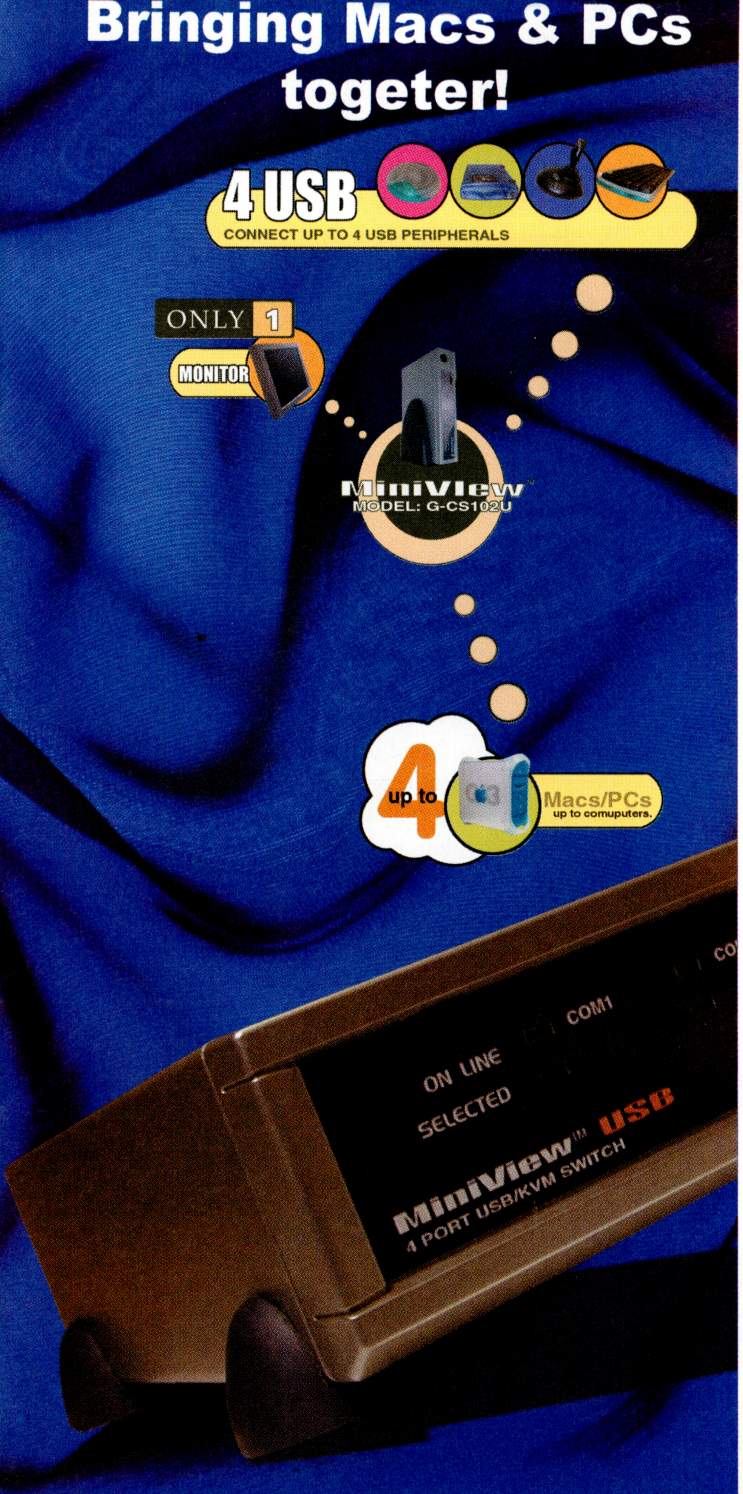
If you have that destructive urge but you don't want to stoop to a shoot-em-up game, perhaps a good physics simulation program might be up your alley. You can crash and bang things together and it will still be educational.

On the top of my list for physics simulators would have to be *Interactive Physics* from MSC Software (www.workingmodel.com/products/ip.html). Although *Interactive Physics* (IP) will get on your nerves by making your poor Mac crash occasionally, everything else about it is terrific. *IP* lets you take complete control of your simulated world. Change surfaces, alter gravity, build complex objects, and then destroy them in collisions if you so desire. It's really easy to do; *IP*'s interface is much like that of a paint program, so you can intuitively draw shapes and polygons. Unlike a paint program, *IP* provides tools to pin objects together, pin them to the background, and join them together with springs and rods. Even actuators, pulleys, and motors can be applied. My students have the most fun with *IP* designing collision



Interactive Physics: pre-collision of objects

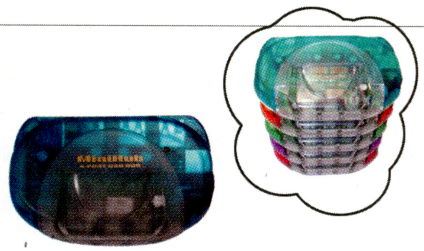
Bringing Macs & PCs togeter!



MiniView™ USB

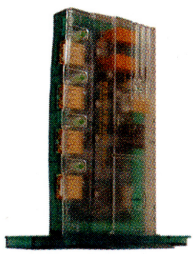
Our four port MiniView™ with USB support allows four computers to share a monitor and four USB devices. Use it with your mouse, keyboard, scanner and any other USB devices in your configuration. If four devices aren't enough, add a USB hub to increase the number of shared devices. This MiniView™ USB is fully compliant with the latest USB standard and video output is complimented with IOGEAR's patented Video Signal Enhancement technology, which provides ultra high resolution video at up to 1920 x 1440. Combine the G-CS104U with the G-UC100KM to add PS/2 keyboard & mouse support.

These 2 and 4-port USB hubs offer quick, convenient USB expansion!



MiniHub

4-port MiniHub (Available in 5 transparent colors!)
Our standard MiniHub is a stackable four-port USB hub with a slick, transparent design. As your USB configuration grows, simply connect another MiniHub and physically stack them together for convenient desktop placement. USB expansion has never been easier than with IOGEAR's new MiniHub.



MiniHub Plus

4-port MiniHub Plus (With vertical mounting stand)
The MiniHub Plus is an enhanced four-port USB hub with a variety of features designed to help protect your computer, as well as your peripherals. With its gold-plated connectors, enhanced heat-sink and advanced power-management, this is far more than your standard USB hub. For those with limited work space, the MiniHub Plus can also be mounted vertically on your desktop, thanks to an included vertical mounting bracket.

MiniHub Lite

2-port MiniHub Lite (Perfect for notebooks)
Notebook users are all too familiar with the space, power and time limitations they face on the road. With this in mind, we developed the MiniHub Lite, a bus-powered two-port hub with an attached USB cable. You'll appreciate the small form-factor on this hub, which effectively doubles the number of available USB ports on today's laptops.

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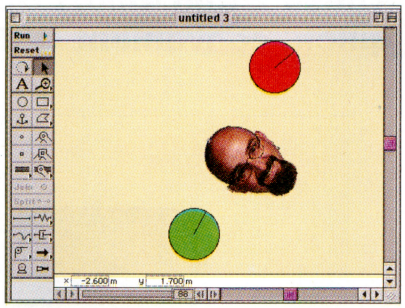
simulations. They especially get a kick out of attaching pictures and clip art to their objects that are being bounced around.

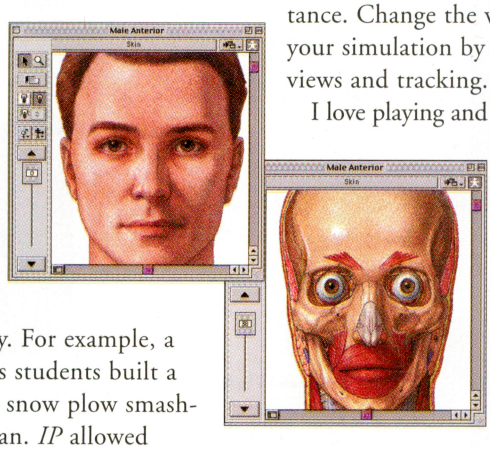


Interactive Physics: post-collision of objects

This program has some high-powered tools that allow you to make just about any physics measurement you want. The measurement menu provides over 20 variable choices to keep track of.

With the ability to assign such measures, keeping track of what is happening to all of the objects in your simulations is easy. For example, a pair of my physics students built a simulation with a snow plow smashing into a snowman. *IP* allowed them to apply measurements to all parts of their simulation in an effort to verify conservation of momentum in a collision.

The choices in the World menu are indicative of further controls at your disposal. You have the ability to generate force fields, control electrostatic forces, and even alter the amount of air resistance. Change the way you view your simulation by changing frame views and tracking.



I love playing and teaching with *IP* but it may not be for everyone with a $250 single-user price tag. You can bet some schools can't afford a site license; that's too bad because it is an excellent tool.

Body Language

If you're willing to take out a second mortgage, you can own the best biology teaching tool on the planet, *A.D.A.M. Interactive Anatomy* (AIA). A single-user license will set you back $1,295; it's worth every penny if you want the ultimate human atlas on your desktop.

AIA provides incredible access to 20,000 anatomical structures in multiple 3D views. All information for *AIA* is based on the Visible Human Project, sponsored by the American Library of Medicine. This is not Mickey Mouse stuff; a lot of cadavers went through a lot of dissection and photographs to get the pictures you'll see.

This software is so good it is used heavily in medical schools and by healthcare providers. Along with unparalleled imagery of anatomy, you also get medical illustrations and a built-in curriculum integration and authoring tool. A.D.A.M. (www.adam. com) is constantly developing new 3D libraries, so if you need extremely specific imagery, it's definitely available. It is literally shocking how comprehensive this software is. The first time you look at the rotating transparent pictures of the heart showing the valves, you'll be in love!

As you switch from tissue to tissue in a 3D view, *AIA* animates the travel in between; there is no jumping from picture to picture, therefore you really feel like you are travelling trough the body.

The dissectible anatomy feature is simply to die for. With a simple slider tool, you dive deeper and deeper into the body; it's absolutely incredible! Considering the complexity of the imagery, it is amazing that this software is so easy to use.

AIA can also easily create slide shows for lectures. Look around a little and you will find pre-made slide shows on the net. Studying anatomy has never been more clear (or clean, for that matter).

ScienceMan!

Interested in more cool science stuff for the Mac? Check out ScienceMan (www.compusmart.ab.ca/dryrot). You'll find enough software and science gadgets to keep your mind inquiring for weeks! MH

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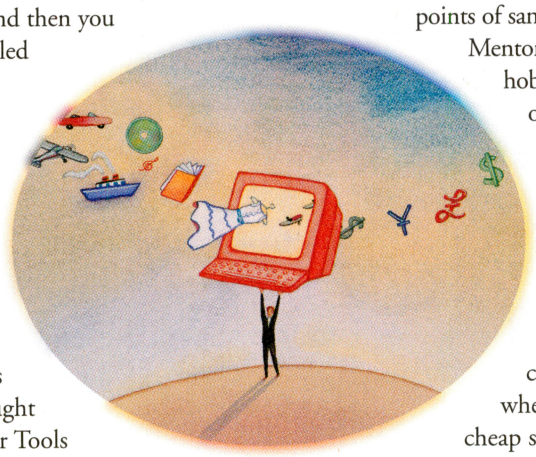
Editors Picks of the Best Sites to Drop Your Money

Spending your hard-earned cash online is what the Internet is all about these days. But the mélange of options can sometimes make shopping online as confusing and frustrating as a flea market on a sunny afternoon. Here, our editors have put together a humble list of suggestions.

Back at the Video Farm

Javu Technologies has an interesting proposition: Rather than spending thousands of dollars on video-editing equipment, why not send them your videotape, have friendly assistants copy it to a remote server, and then you can edit it, using only a Java-enabled Web browser, at the online Video Farm? You have to give them a small fee, of course, but you can try it for a month for free.
Javu Technologies, www.video-farm.com



X(treme) Marks the Spot

The good folks at MetaCreations — you know, the ones who brought you Poser, Bryce, and Kai's Power Tools — would like to offer a number of groovy, creativity-inducing tools as a series of hotoshop-compatible plug-in effects called KPT X. Rather than buying the whole kit and caboodle, you can purchase each one as your whimsy moves you.
KPT X, www.metacreations.com/products/kptx/

Holiday!

Travel like a pro. Actual travel agents use "Sabre," which stands for Semi-Automated Business Research Environment, to book their trips. And the folks at Sabre now run a Website called Virtually There, wherein trip information, such as departing and arriving flights, car rental, hotel reservation, weather information, maps and the like can be viewed. Make a reservation through a travel agent that uses Sabre, and you'll get a Sabre reservation number, which you can use to access your pertinent data on the Website.
Sabre, www.virtuallythere.sabre.com

Holly Hobby

Get a hobby! Or revive one. eHobbies has just about everything a model railroader, model car builder, model airplane flier or model rocketeer could hope for. Hobby-themed chatrooms are available for those of you wishing to discuss the finer points of sanding and decal application on T-34 Mentor planes. And if you cannot decide on a hobby, one will be assigned to you courtesy of eHobbies' "Find a Hobby" page.
eHobbies, www.ehobbies.com

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Take Me To Your Leader

In the bewildering morasse of Websites out there, sometimes it's hard to know where to turn for just the right product. Wouldn't it be nice to have a guide? Turn to TrailBreaker, where you can pick a product from one of hundreds and get advice from an "industry expert" about how best to find and buy it online. Best of all, TrailBreaker then links you to its recommended sites, so you can complete your research with a well-placed purchase. A helpful hint: Keep your TrailGuide on top.
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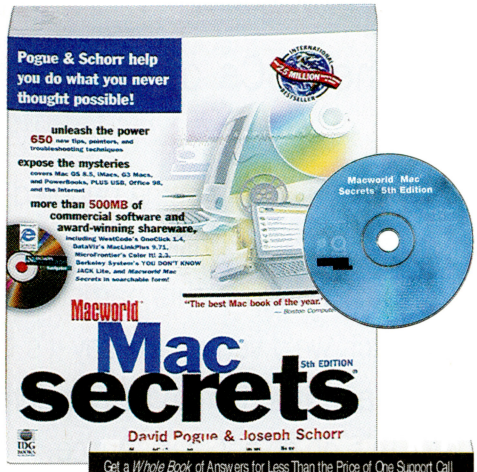

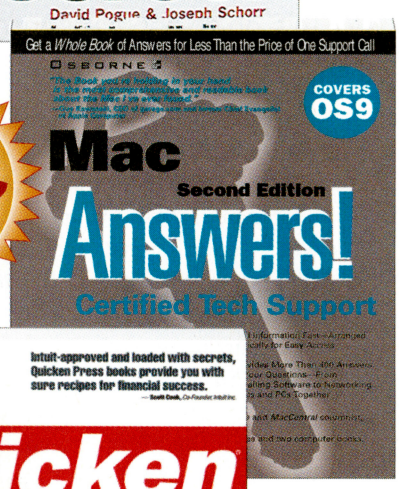

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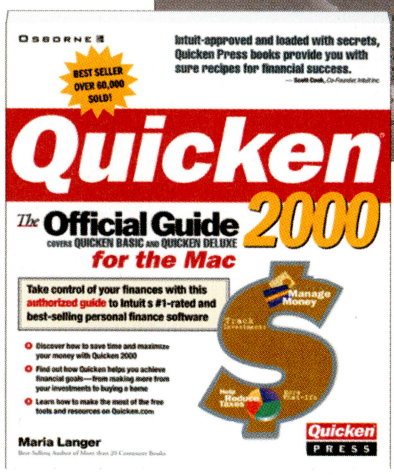

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07 YS251

By Molly Wood

The Definitive DSL

The ABCs of Making the Digital Connection

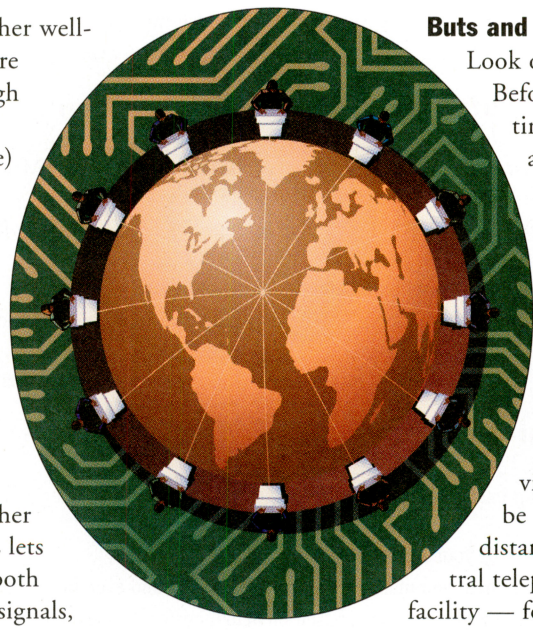
DSL is being bandied about like a buzzword these days, but unlike "paradigm-shifting" and "thinking outside the box," this particular fad can actually do some good. In fact, we'd venture to say it's become almost a necessity if you plan to work from home. Here's a look at the ins and outs of this oh-so-popular service.

DSL — which stands for Digital Subscriber Line — is a technology that uses existing, ordinary copper telephone lines to bring high-bandwidth (meaning fast) Internet connectivity to homes or small businesses.

DSL has gained popularity for the most part because of its speed and reliability. Speeds typically range from 1.544 Mbps (megabits per second) to 512 Kbps (kilobits per second) downstream and around 128 Kbps upstream. "Downstream" refers to the speed at which you can download information, while "upstream" refers to upload speeds. DSL's top download speed — 1.544 Mpbs — is 30 times faster than a 56k modem.

DSL is also reliable, and although it's a little expensive at the outset, it's certainly an affordable monthly expense for a small or home-based business.

There are actually a slew of digital subscriber line technologies. The one you're probably most familiar with is ADSL, which is the most popular form of DSL technology (and to the uninitiated, the terms are often used interchangeably). ADSL stands for Asymmetric Digital Subscriber Line. Some of the other well-known forms are HDSL (for High bit-rate Digital Subscriber Line) and SDSL (Symmetric Digital Subscriber Line). But there are several other variations on the DSL technology.



Among its other attributes, DSL lets one line carry both voice and data signals, which means you could conceivably use the digital connection as your sole phone line *and* your Internet connection. DSL also enables a 24-hour connection, for fast Internet access all day, every day. Here's how it works.

Can't Drive 56

DSL uses more of the available bandwidth spectrum than ordinary telephone service, which limits the connection speed of a standard analog modem to 56 Kbps.

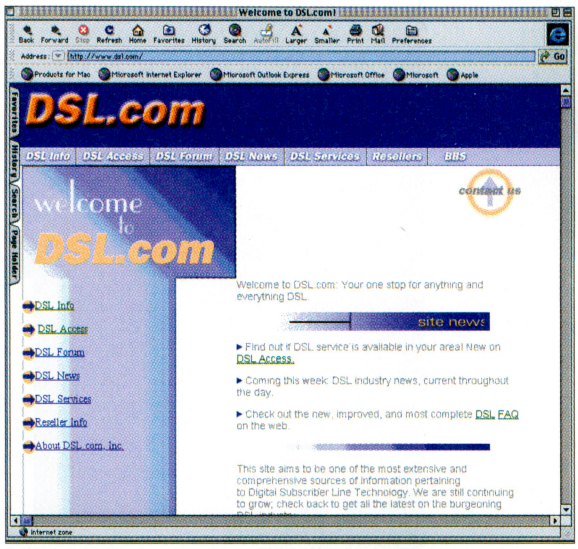
DSL zips merrily by because it connects both ends digitally, skipping the digital-to-analog conversion that modems must perform. So it can make use of more bandwidth space and transfer data a lot faster. It's also a more reliable connection, and there's no annoying dial up — you're connected all the time.

Buts and Bolts

Look out, though. Before you go getting all excited about DSL, you first have to find out if you're eligible. It's not a credit check thing; it's just geography.

In order to receive the service, you must be within a certain distance of the central telephone switching facility — for ADSL, that's a paltry two miles. It's three miles for most other variations. So the service is available only in limited areas. To find out if you're eligible, go to *www.dsl.com* and fill out an online form. You'll know within minutes whether you're in a DSL hot zone.

Then there's the cost. Setup, which includes hardware, is pretty pricey, and the monthly fee is higher than a regular phone line, ISDN, or a cable modem. For example, in the western



DSL.com lists where DSL services are available.

United States, Pacific Bell has a package for $39 a month, but that doesn't include the cost of an Internet service provider (an ISP), and there's a $198 charge for the hardware you need — a Network Interface Card (NIC), DSL modem, splitter, and inside wiring. Installation ranges from nothing to $100, depending on whether or not you sign up for a long-term service commitment.

The Pacific Bell service costs up to $149 per month for the fastest speed, and it's $59 per month without a commitment to a specific length of service. It adds up. Call your local telephone company to find out their rates, and be sure to inquire about all the variations; you don't want to pay more than you have to.

By contrast, Pacific Bell charges $10.69 for a basic, flat-rate telephone line, and a $33.01 installation fee. ISDN, another digital technology that provides a similar — but slower — service, is $29.69 per month from Pacific Bell, with varying installation rates. And a cable modem setup, which uses your cable TV line to access the Internet, will run you about $30 or $40 a month — comparable to DSL in that regard, but without the wallet-bending setup costs. (Cable Internet access is not available in all areas, however; you'll need to contact your cable company to see if they offer it.)

What to Do?

The fact is, as far as speed is concerned, you're not going to beat DSL. The technology promises bandwidths up to 9 Mbps, but of course, distance and line quality will reduce what's actually possible. Still, it's probably noticeably faster than what you're already using, be it ISDN, cable modem, or, especially, an analog modem.

The main difference between DSL and cable — probably its closest competitor — is that DSL is a dedicated line and cable is a wide-area network. That means a cable connection is likely to slow down during peak hours (with DSL this is possible, but it's not likely), and it might not be as reliable.

In fact, if it's fast and reliable you want, DSL is your option of choice — no more getting kicked off a busy network or passing intolerable seconds waiting for uploads and downloads.

If your primary use is going to be downloading, ADSL is generally best. It has a faster downstream data rate, meaning you can download information faster than you can send data. And it's usually the cheapest option.

Customers who want larger bandwidth and faster upstream rates might want to check into HDSL, which provides faster uploads, and SDSL, which is a variation of HDSL.

Who You Gonna Call?

For home-office use, we wholeheartedly recommend DSL and believe the service is worth the price.

If you decide you want it, call your local phone company to find out if you're eligible. The phone company will run a test line to determine whether your existing copper wires can take the bandwidth DSL will require. If all goes well, you'll be on your way.

No doubt you already have an ISP, so find out before you start whether your ISP supports DSL. Many do, and you shouldn't have any trouble. Refer again to *www.dsl.com* for an access form that will let you find DSL ISPs in your area.

So have at it. DSL isn't just a fad or a buzzword. It's efficiency, peace of mind, and workhorse dependability. Plus, it's great for surfing. MH

home Office watch

Vision Wares

Among the benefits of working at home is escaping the fluorescent lighting that is so representative of the corporate world. So why recreate the feeling in your home office?

Ott-Lite Technology has developed a line of lamps, lights, and bulbs that closely replicate sunlight. It's the same technology used to design lighting that helps battle Seasonal Affective Disorder, wherein the dark days of winter create depression that can be treated by exposing sufferers to artificial sunlight.

Ott-Lite says its lamps reduce glare and distortion and more accurately render colors, making the products perfect for graphic designers and the like. It's a pretty pleasant glow, actually, though its actual appearance may leave something to be desired.

Ott-Lite has a series of designs, including a small, portable task lamp, desk lamps, a clamp-on lamp, and a large floor lamp. The specially designed bulbs are good for 10,000 hours, the company says, and give off less heat than incandescent or halogen bulbs. Prices range from $40 to $170.

Ott-Lite
www.ott-lite.com, 800-842-8848

Vision Wares (II)

Speaking of seeing, a list of eye-friendly lighting products wouldn't be complete without the Eclipse Computer Light. The Eclipse, along with a host of products, including the Bausch & Lomb MagniViewer, is designed to combat Computer Vision Syndrome, or CVS. Doctors say some 66 million people suffer headaches, blurred vision, and dry eyes, due to staring at a monitor all day.

The Eclipse computer light works by using indirect light to reduce glare, and thus, in theory, ease the strain on your eyes. The lamp creates indirect light by perching atop your computer monitor and cascading gentle light onto your work space.

Again, it's not the most attractive desk lamp we've ever seen, but we're talking about your eyeballs here, folks. Some things are a priority.

Eclipse Computer Light, $50
Eclipse
www.computerlight.com

The Help Zone

Feeling alone? Just you and your computer? Starting your own business and wish you had some guidance? Check out AllSmallBiz.com. It's a small-business information search engine.

The site indexes small-business information by category, so you can look for information on just about anything you might need, from hardware to software to accepting credit cards online.

The site also links to other small-business resources, such as Entrepreneur Magazine; the Small Business Administration; a library of articles on topics such as marketing, selling, and writing business plans; and another Office Watch-recommended site, SmallOffice.com.

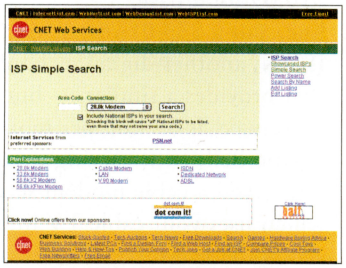
Don't feel alone in the world! Get to surfing.

www.allsmallbiz.com

ISP Me

Speaking of helpful sites, you probably need an Internet service provider (ISP) now that you're off the office LAN. Check out the Ultimate Web ISP list.

It's a new site that offers a detailed directory of ISPs, and you can search the list by specific criteria. The Ultimate Web ISP List also has a Top 10 list of the best ISPs, monthly reviews, related resources, and articles.



The site lets you pick an ISP by entering your area code and desired bandwidth. You can specify a local ISP or a national service provider. There's even a glossary in case you're not familiar with the types of services available, and detailed reviews of up to 12 ISPs every month.

The Ultimate Web ISP List
www.webisplist.com

He can fetch, roll over, play dead and wreak havoc on your disk drive.

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www.falconsafety.com

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By Alex Handy

Itty Bitty Video Power

The Elura Vs. the Handycam

What's a would-be director to do? The new iMac DV's are killer video-editing stations, but all those cool moves you can do with iMovie require a FireWire-capable digital video camera. It's going to be a while before DV cameras flood the market, but for now you're up a creek, right?

Not if you're willing to plunk down a grand-and-a-half, you're not. Two such camcorders are the Sony DCR-TRV10 Handycam and the Canon Elura.

Smaller and Smaller and Smaller

The first thing you'll notice about these two cameras is that they are small — absolutely minuscule compared to their nondigital counterparts. Neither takes up more space than a clutch purse; in fact, the Elura, which is a tad smaller than the Handycam, is downright stealthy. But size can be misleading, as these two cameras are pint-sized powerhouses capable of capturing some amazingly high-resolution images.

Go to www.machome.com/reviews To find over 1,000 MacHome reviews in our searchable reviews archive.

Digital video cameras are much easier to use than most of your standard camcorders; because the interface is digital, it's easier get to blank space on your tape when you need to shoot quickly. And both cameras make use of a simple wheel control — like the volume control on your Walkman — to navigate through menu commands. And like the clicker in your mouse, you press the wheel in to make a selection. This makes it easy to configure the massive number of options available. In terms of the other controls, the Handycam is much more "cluttered." It uses almost twice as many buttons as the Elura to accomplish similar feats, making its learning curve a bit steeper.

The Elura

But with the Handycam, you can do all sorts of weird, fancy stuff to your video before it even leaves the camera, such as filming in letterbox mode, adding effects filters, and even stamping video with print marks. With both cameras you can fade in and out of shots, add simple effects, and place headlines and titles over scenes. While this is a bit pointless if you actually have an iMac DV (these effects are nowhere near the quality of those found in iMovie) they're nice if you're making a video on the fly without a base of operation.

Style Is Everything

The Handycam looks like a smaller version of a traditional camcorder — it's not graced with the style and form that we Mac users are accustomed to. The Elura, in contrast, is a thing of beauty. It's curvier, and one side is covered with smoothly molded plastic. The Elura's front has a friendlier face, unlike that of the Handycam, which looks like the business end of a piece of electronics.

But the Handycam's LCD, the camera's "digital viewfinder," is definitely easy on the eyes. Its optical viewfinder is easy to use when you want to get a tight view of the scene, but its LCD easily trounces the Elura's display with a larger viewing area and a crisper image. The Elura's no slouch in this respect, however, as its screen definitely gets the job done with a minimum of wasted space.

When it comes to zoom lenses, however, it's a different story. The Sony has a

10X optical zoom and a 120X digital zoom, but once you pass the point of optical zooming, the image becomes pixellated and garbled. The Canon, however, has a full-fledged 48X optical zoom, so it remains clear no matter how close you get to your subject.

Automatic Jack

One of the nicest things about these cameras is that they act both as instrument and assistant. Both the Elura and the Handycam use DAT tapes to record their video images (the same tapes you use in a tape backup drive). To load your tape, you need only insert it into an awaiting slot, and the camera does the rest. The tape slot is sucked down into the camera and all sorts of buzzing and whirring ensues; it really gives you a warm techno feeling.

And both cameras do good jobs of capturing the sounds around them. The Elura, however, had a tough time dealing with loud noises; too much noise and the sound would fizzle a bit.

What's in a Frame?

Transferring video from these cameras into an iMac DV through FireWire is a breeze. Simply plug the camera into the FireWire port, and everything else is handled by iMovie. Neither camera presented any problems when we plugged them in, and both are easy to control through iMovie. You can alter the video playback right on your desktop, thanks to the simplicity of DV cameras. The Elura seemed to be more at ease with iMovie, however, as it transferred video at a slightly higher frame rate than the Handycam did. There is a noticeable difference in the playback frame rate between the two when video is imported to the iMac. The Sony's video was slightly jerkier but the Elura's video wasn't exactly perfect either. It seems that while iMovie and your iMac DV are excellent at editing video, they are not up to the standards of a good old-fashioned VCR when it comes to playback. Video playback on the iMac DV ran at around 12 frames per second, sometimes less. Normal speed for video on TV or in a movie is around 27 frames per second, and you'll find that anything less is definitely noticeable by the human eye.

But playback over a TV through S-video was excellent for both of these cameras. They perform as well as, if not better than, a standard camcorder, and the image quality is a definite improvement over old VHS tapes. In the cameras, playback was also silky smooth — a plus if you want to record a movie onto the camera and watch it on the plane later (not a standard use for one of these cameras, but plausible and useful nonetheless).

The Handycam offers a few more connectivity options than the Elura, but most of these are nonstandard and aren't likely to be used frequently. Since both cameras have FireWire, S-video, and AV ports, there's not much else that's needed. While it would be a nice touch to have a composite video port, it would also add a lot of extra weight to the cameras. And since composite is not a native digital format, it would require some kind of translation hardware.

The Little Things

Each camera has its own special features. The Elura has a wind filter to help cut down on audio interference on windy days, while the Handycam has a Memory Stick slot, so you can use Sony's Memory Sticks when they become more viable for storing large amounts of data. As of press time, the only way to get data off of a Memory Stick and onto a Mac is via a PCMCIA adapter, and of all the Macs, only PowerBooks have PCMCIA slots, so that's a bit limited. Also, the Elura has a separate battery charger while the Sony's battery must be charged in the camera. However, the Elura's battery monitor is less accurate than the Sony's, which gives you a digital time readout, so you may find yourself low on juice with little or no warning. The Handycam has a remote control but the Elura does not. But if you don't have a tripod, you won't get much benefit out of this feature.

The Handycam

The Final Decision

If you've just purchased an iMac DV, you may flinch at the idea of slapping down the money for a DV camera, but rest assured, you get what you pay for. These cameras can easily replace your current camcorder and then some. But which is the one for you? In the end, the Elura comes out slightly ahead due to its smaller stature, less-cluttered interface, and much more capable zoom. Plus, the Elura's price is slightly lower than the Handycam's with no loss of power or control. The Handycam's bells and whistles, such as in-camera effects and the included remote control, don't add enough usefulness to beat the Elura's simplicity and elegant style. MH

rating 🍎🍎🍎

Elura
$1,600, Canon
800-652-2266
www.canondv.com

👍 **Small, sleek, and stylish; simple interface, amazing zoom**

👎 **Pricey, small sub-par LCD**

rating 🍎🍎🍎½

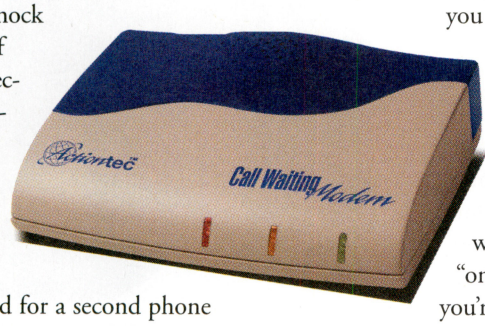
Digital Handycam, DVR-TRV10
$1,700, Sony
800-222-7669
www.sony.com

👍 **Great LCD, comes with remote control, works in low light**

👎 **Pricey, digital zoom is pixellated, too many buttons required for simple tasks**

Call Waiting Modem

If you have call waiting, you probably know that the little beep to notify you of an incoming call will in most cases knock you right out of your Net connections (dang telemarketers!).



Actiontec's Call Waiting modem is cool because it negates the need for a second phone line just to receive calls, while maintaining your Internet connection. The catch is that you can only take about seven seconds to deal with said incoming calls while you're still connected to the Net. That's because the modem works with the carrier signal present in your Web connection, and if this signal is interrupted, your ISP (Internet Service Provider) will terminate the connection after about — you guessed it — exactly seven seconds.

Hooking the modem to an iBook's USB port, we bypassed the internal modem and started in to a little Web surfing (the modem gets its power entirely from USB). When there's an incoming call, the speaker on the modem starts in to ringing, and mighty loudly too. Once you pick up the line you must quickly decide whether to abandon your Net call. If you like you can tell the caller to hold on, use your call waiting to put them "on hold," finish what you're doing on the Web, disconnect, and then talk to them.

Using this last method works, but you're likely to get a couple of confusing beeps and modem tones before you've successfully disconnected. We found it easier to say, "I'll call you right back," then disconnect the call. Of course, if they're calling you, then you don't have to pay for the call.

Aside from the seven-second method we've discussed, you can also have the ISP disconnect immediately when you get a call, or bypass call waiting entirely. If you choose the latter, your callers will hear a busy signal or get routed to your voice mailbox, if you have one.

This is a nifty feature but it does have a couple foibles. Your phone will sometimes ring again after you hang up from your voice call, only to greet you with a screechy tone. And if someone calls but then hangs up before you answer, the modem will continue to ring as though they're still calling. And (sigh) the manual and packaging are Windows-centric. But the modem does include Mac software even though it doesn't list it on the box.

The Final Decision The Call Waiting Modem's not as good as two phone lines. But it's a heck of a lot better than one.

— John Poultney

rating ●●●●

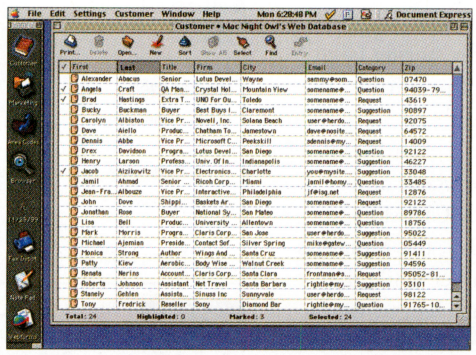
$129, ActionTec Inc.
800-797-7001
USB required

Lets you get incoming calls while still connected to the Net, uses USB Power

Makes you act quickly when getting a call; sometimes mysteriously calls you back, can produce screechy tones without explanation

Document Express Pro 2.5

Your business Website is growing. So how do you turn those visitors into real paying customers? How do you respond to their queries?



Document Express helps you put a customer service front end on your site. You can create custom Web-based forms that can be used as a guest book, for sending support questions or, better yet, for placing orders.

The program's sophisticated online mail-merge feature lets you send automatic responses to your customers, keyed to the kind of inquiries they send. So you become available to your customers 24 hours a day, every day, holidays included.

You can import a customer database from any program that can generate tab delimited text, and you can use Document Express Pro to manage your contact database from here on. The program even includes plug-ins that work with the regular (bundled) version of FaxSTF and FaxSTF Pro. You can then use Document Express Pro to automatically fax documents directly to your clients.

Unfortunately, the manual makes it very clear you need a good knowledge of HTML coding to handle the fine points. But Document Express also helps you get around that shortcoming. It features a complete set of templates, which you can use without having to get into the nitty-gritty of HTML.

The Final Decision Database programs take a learning curve, and Document Express Pro is no different. In addition, you really have to be adept at HTML to make your own Web forms from scratch. But if you can get past the complexities, or adapt those free templates to your business, you may find this a great way to build your Web-based business.

— Gene Steinberg

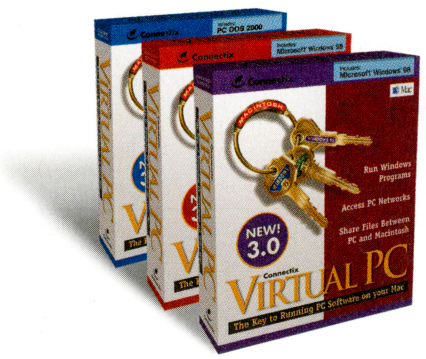
rating ●●●●

$250, Document Express, Inc.
619-509-0581
www.documentexpress.com

Flexible contact management, automated mail merge, fax broadcasting, comes with ecommerce templates

Dense manual, requires HTML knowledge to create custom Web forms

Windows® Compatible



Macs, including the new iMacs, are the best personal computers on the market today. However, compatibility and interoperability between the Mac and the Windows platforms are critical in today's world. Virtual PC is a software solution that brings Windows capabilities right to your Mac! Run Windows-based business, home and educational programs. Access PC networks. Easily share files between your Mac and PC desktops. All on one computer, your Mac!

Virtual PC 3.0 is OS9 compatible and is available in three versions. You can buy Virtual PC with PC-DOS, Windows 95 or 98 pre-installed. You can also run Windows NT or Linux. Have it all on one computer and have it today! To buy or for more information, go to www.connectix.com, or call 1.800.395.1814.

Connectix

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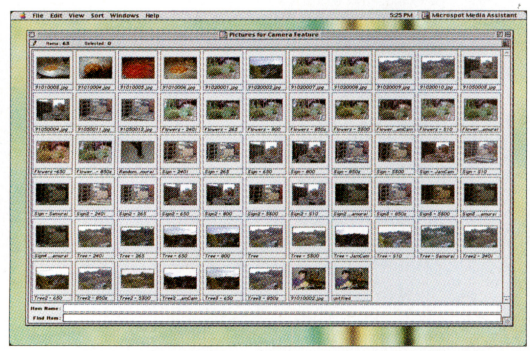
Media Assistant

If you're starting to collect a lot of image files on your Mac, from digital cameras, scanners, or various and sundry sources, then you might need a little assistance. Microspot's Media Assistant shows you thumbnails of your pictures, so you don't have to guess what they are.



But Media Assistant can catalog any file — not just pictures — and that includes movie and sound files. It will show you the first frame of a movie as a thumbnail in your catalog, and you can click on an icon to hear your sound files. Also, as with other programs of this type, Media Assistant allows you to easily export your catalog, with all of its images and sounds, to the Web, to be shared by the world at large. The final pages will show thumbnails of your images, and visitors to your site can click on the file name, which appears below it, to view the picture full-size.

But Media Assistant's search capabilities leave a bit to be desired, in contrast to more expensive media-management programs such as Digital Arts & Sciences' ImageAXS or Canto's Cumulus Desktop (both reviewed in April 1999). You can search for images by keyword, but instead of showing you just your requested images, Media Assistant shows you all images with your requested ones selected. This makes the search feature very difficult to work with, since some of the selected images might not be visible in your catalog window.

Also, you can use media assistant to create a "self-contained" catalog, but anyone who you give the catalog to will have to have the program in order to open it, which is a major drawback.

The Final Decision For the price, Media Assistant is not a bad program, and it provides a ridiculously easy shortcut through HTML on the way to sharing your digital images over the Web. But if you have need for more advanced and usable search features, you might want to spend the extra money for ImageAXS.

— David Weiss

rating 4½

$69, Microspot
800-622-7568
www.microspot.com

Inexpensive, easy-to-export catalogs to the Web

Clunky search capabilities, "self-contained" catalogs need the program in order to open

Performance Package USB

All the cool peripherals and mice are USB these days; what to do if you have an older Mac or a clone? With XLR8's Performance Package USB, you get a two-port USB PCI card and a two-button scrolling mouse. Once installed, you can plug in all that cool stuff we list in our (warning: shameless self-promotion ahead) iMac Buyer's Guide.

Installing the USB card is pretty easy. If you've ever installed a PCI card before, this one's a snap. Software installation is a bit more complicated, as the CD we received with our Performance Package USB had installers for the entire XLR8 line of products. Thus, it was a bit confusing to figure out which three we needed. But once we installed them, the card and mouse ran like a dream. We have yet to encounter any problems with the card or its USB ports. Quickcams worked perfectly, joysticks were recognized easily, and even our hubs weren't affected by this bit of extra computer prosthesis.

At $70, the Performance USB is competitively priced. You're likely to find other USB cards for either $10 less or more. And when you throw in the mouse, it tends to tip the scales in favor of the Performance Package USB. Unfortunately, the mouse isn't perfect. While the extra button and scrolling wheel make it easier to browse the Web, the mouse itself is a tad on the flimsy side. We here at *MacHome* have a thing for mice with a little bit of heft to them, so the XLR8 mouse doesn't exactly mow our lawn. Occasionally, the scrolling wheel took a moment to be recognized and the support feet on the bottom of the mouse protrude a bit too much. This results in the occasional snag at the end of the mouse pad. Also, the mouse ball is at the back of the mouse rather than the front or the middle, which can be a bit awkward for old mouse pros.

The Final Decision When you get right down to it, this is one sweet package. And heck, you can always replace the mouse if you don't like it. If you've been slobbering over all the cool USB stuff out there, just pop this card into your PCI based Mac and all your dreams will come true.

— Alex Handy

rating 4½

$70, XLR8
888-957-8867
www.xlr8.com

Card is easy to install and works like magic, comes with scrolling mouse

Installation disc is confusingly cluttered, mouse is cheap

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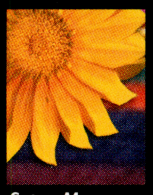
Super Macro

Black & White

Sepia Tone

Text Mode

Burst Mode captures images in rapid succession

2.3 Million Pixels
3x Optical Zoom
Super Macro
USB/iMac Ready
Auto Bracket Mode

Powerful features for professional results

with point and shoot simplicity!

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- Continuous auto focus from 1.6 inch macro to infinity
- Fast USB file transfer
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- 5 flash settings: automatic, strobe sync, red-eye reduction, forced and off
- 6 white balance settings: auto, daylight tungsten, florescent, incandescent and overcast.
- Adjustable exposure compensation
- NTSC and PAL video out for television and VCR playback
- Standard JPEG file format with user selectable compressions
- Optional remote control support
- Time/date stamp

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742-6410

iUPS

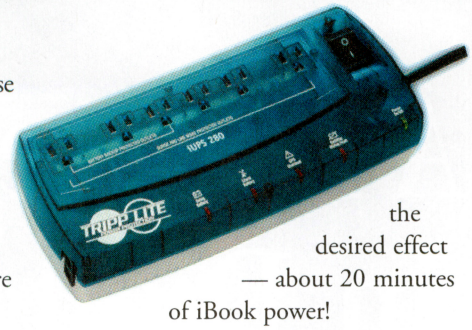
I am writing this review in the dark, on an iBook that is not plugged into the wall and has had its battery removed. How? With a UPS (uninterruptible power supply), of course.

UPSs have been used by big corporations for years to protect mission-critical computer systems. Well, UPSs are now for the rest of us. Essentially, a UPS provides a battery backup that will power your system for a small time so you can shut down normally without losing data. Anyone who lives in an area prone to blackouts can appreciate this. And if you're the type who likes appliances, it's easy to overload one's circuit breaker. All it takes is to run an iMac, a refrigerator, a washer and dryer, a microwave, a blow-dryer, an electric barbecue, a taffy maker, pencil-sharpener, air conditioner, and maybe a CD player, and BOOM! Your circuit's blown and you're plunged into darkness.

Well, you needn't lose any files, nor your Internet connection, if that happens. With Tripp Lite's iUPS (so named because it has a nice blue-and-white translucent color scheme), you get a set of outlets that will continue operating for a few minutes should an outage occur.

The iUPS has six outlets. Three are backed up by battery, the other three are not, but all six are protected from electrical surges. If you should lose power to the outlet to which you've connected the iUPS, you'll hear a beeping alarm on the iUPS to warn you that you're using battery power. The alarm is rather faint and could be overlooked in noisy surroundings; we'd love to see a USB connection that alerts you to a power failure with a dialog box, but it's acceptable as it is.

The rule of thumb here is to not overload the iUPS. Only plug those appliances that are critical into it. I plugged a high-powered light into it in addition to my computer and cordless phone (it needs power for the base station), and instead of the few minutes I expected I got only about ten seconds before all was lost. Oops. Plugging only the computer and phone into the unit produced



the desired effect — about 20 minutes of iBook power!

The Final Decision The iUPS is a great thing to have, especially if you suffer from frequent power outages. Just make sure you don't overload it and you'll be fine. I'd call it a lifesaver, but Tripp Lite expressly says they do not recommend using this unit to operate life-support equipment. Ah well.

— John Poultney

rating ●●●●

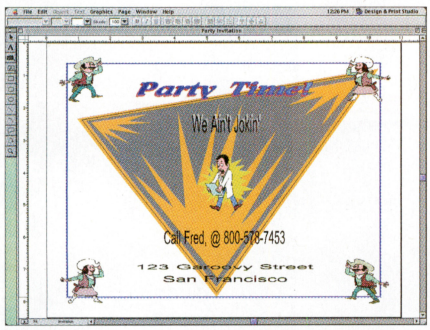
$107, Tripp Lite
773 869-1111
www.tripplite.com

Keeps you going when the power fails

No method to alert you of outages other than faint alarm

Design & Print Studio

If you want to turn yourself into a publishing whiz, capable of whipping up glitzy printed materials, you're going to need some software. And if you want this transformation to happen overnight, you might take a look at MacSoft's Design & Print Studio, an easy-to-learn and inexpensive publishing package.



As with other programs of its ilk, Design & Print Studio comes with a large collection of materials to work with — 10,000 pieces of clip art; 300 fonts; and more than 100 templates for greeting cards, business cards, banners, signs, letterheads, calendars, envelopes, invitations, and postcards.

Design & Print Studio makes a good introduction to professional desktop-publishing programs, since it has a similar look — as with QuarkXPress or Adobe's InDesign, your document appears in the center of the screen in a "pasteboard" area surrounded by tools that select and manipulate the objects on the page. The difference is that when you launch Design & Print Studio, you're asked what kind of document you want to create — such as business card, sign, or flyer — and then you're asked what kind of layout you'd like to use, chosen from a list of different arrangements of text and graphic elements.

It's not nearly as capable as Corel's Print Office 2000, which we reviewed last month, but Print Office does cost more than three times as much — $65. Print & Design Studio lacks the photo component that lends a lot of class to Print Office. Not only does Print Office contain a CD full of digital stock photographs, it also allows you to perform special effects such as turning photos into impressionist paintings. Print Office also allows you to export your creations to the Web, although it converts all of your text to graphics.

The Final Decision If you're brand new to computers and you want the easiest, least expensive way to dive into desktop publishing, pick up Design & Print Studio. But if you yearn to work with photos, you might want to spring for something a bit more sophisticated.

— David Weiss

rating ●●●●

$20, MacSoft
800-229-2714
www.wizworks.com/macsoft

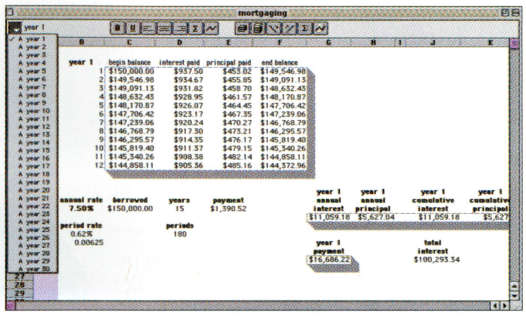
Easy to learn; inexpensive; comes with tons of clip art, fonts, and templates

No photos or photographic effects, no Web capabilities

Storeys

It's unusual to see anything new in the spreadsheet department. Excel, which is clearly the standard at this juncture, hasn't really changed that much — in terms of basic concept — in years. The spreadsheet in AppleWorks is clearly just a permutation of Excel. But Storeys puts a completely different twist on the spreadsheet, one that we think deserves more than just a cursory glance.

At first blush, Storeys appears to be just like every other spreadsheet. There are standard rows and columns a minimal collection of buttons for formatting text, calculating sums, and creating charts. But if you were just looking at buttons, you'd be making a mistake. What makes Storeys different is not what you initially see; it's the capabilities that lie beneath the surface. Unlike other spreadsheets, Storeys allows you to work with data in three dimensions, making the program behave something like a relational database. Storeys accomplishes this feat by allowing you to stack groups of cells, like blocks, one on top of another. (See the example of shadowing at right.) These blocks are referred to as "storeys." You are then able to separately add data to each storey and perform calculations individually on only the currently viewed data or all the data from every level. This results in an incredibly compact, exceptionally versatile spreadsheet.



While the program is powerful, it also has some significant limitations. The interface is Spartan and lacks features — such as buttons for changing number formats — which are standard on other available spreadsheets. Charting is limited to two dimensions and integrated help is nonexistent. But worst of all, the documentation lacks any coherent tutorial to help you gain a grip on using Storeys' 3D capabilities — an unfortunate shortcoming that leaves you scrambling to discover how to effectively use the program.

The Final Decision

Storeys is an exceptional spreadsheet program that is based on an excellent concept. But it is overwhelmingly evident that the program is still in an embryonic — albeit very workable — stage. While you may not want to make Storeys your spreadsheet standard yet, you will discover that the program makes managing and manipulating your data amazingly easy.

— *Jeff Battersby*

rating 🍎🍎🍎

$90 (Student discounts available), ProFunda
In Denmark, +45 63157322
www.profunda.com

👍 **Excellent and intuitive relational database-like spreadsheet**

👎 **Program lacks refinement, no coherent tutorial.**

EPL-5700i USB Laser Printer

Epson's EPL-5700i is a speedy little monochrome printer that doesn't take up much desk space and does a good job with most printing jobs. Despite a few software-related flaws, we found this to be a capable little unit.

The printer hooks up to your handy USB port. In tests, the unit performed quite well, though working with the printing utility was a bit clumsy, as you'll read below. At the default resolution of 600 dpi (dots per inch), documents came out pretty quickly, as in two minutes and 17 seconds for a 15-page Word document, one minute and 28 seconds for a nine-page Quark document, and 54 seconds for a one-page Adobe Acrobat file (though that one turned out a bit grainy). An EPS (encapsulated PostScript) Quark file — demonstrating the printer's ability to interpret PostScript graphics — printed in 54 seconds at this resolution, but the quality was poor. That's most likely because the printer doesn't officially support PostScript.

Bumping up the resolution to 1200 dpi, quality improved (except for the aforementioned EPS file), in particular in the Acrobat document. Printing times were longer but this ratio varied widely with the type of file; the one-page Quark file we mentioned took only 10 seconds longer at 1200 dpi. The Acrobat file took more than three times as long to print.

The EPL-5700i includes your standard printing-utility software, which provides a status monitor to tell you what the printer's up to and the print dialog box in which you set the resolution and layout. A handy "Fit to Page" check button printed only the portion of a Web page shown onscreen, rather than the entire page. However, you can't make changes to the default setting; instead, you need to create a new Settings file and wrestle with such default settings as "MySettings" and "MySettings2." If you don't set them with descriptive names at the outset, you may have trouble remembering your settings.

The Final Decision For $400 ($349 after a $50 mail-in rebate), this printer is a pretty good deal for a compact and fast-working USB laser. It doesn't support PostScript, so don't try really high-end printing with it (at least not with PostScript or EPS files); but otherwise, we have a winner.

— John Poultney

rating 🍎🍎🍎🍎

$400 (list, $349 after rebate), Epson
www.epson.com
800-463-7766

👍 **Inexpensive, fast, nice quality at higher resolutions**

👎 **Quirky software settings, no PostScript support**

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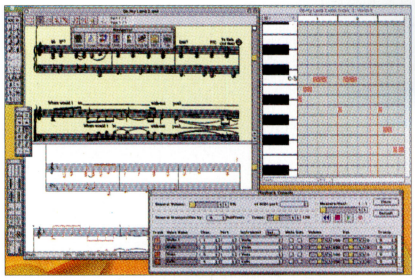
SmartScore

Since the early days of music-notation software, arrangers and music teachers alike have eagerly anticipated the day when sheet music could be reliably scanned into a computer and edited on screen as easily as pages of text. And now there's SmartScore.



With this program, you can scan in and edit pages of solo or ensemble music in minutes. If you need to transpose a choral arrangement, create a collection of orchestral excerpts for study, or lay out a tightly-spaced arrangement for easier reading, scanning is the fastest (and coolest) game in town. And SmartScore documents can be exported to other programs as MIDI files.

In addition to its scanning capabilities, SmartScore also offers a basic set of features for producing your own original sheet music. All the conventional note-entry methods are available, and a number of floating-tool palettes can be displayed simultaneously, making it possible to create and lay out your music without ever cracking the manual or accessing any menus. You can even play back your scores, including dynamics, using QuickTime Musical Instruments or a MIDI sound module. Having this capability is great for proofing scanned music against originals, because you can listen for errors, instead of scrutinizing every note on screen.

However, the program does have some limitations. Having allowed you to scan in music, the program gives you limited control over page elements and fewer templates compared to other non-scanning notation software. And at version 1.2, it's still a bit buggy. Sometimes I couldn't erase page elements, and some tools worked improperly — the Natural tool makes regular notes natural, but makes grace notes sharp.

The documentation includes a couple of useful tutorials to get you up and running, and a handy Quick Keys Map card is included for reference. I didn't find the index very helpful, though, because it lacked information on how to perform some basic operations.

The Final Decision Musitek has a good thing going with SmartScore. Its scanning capabilities are solid, but it lacks in areas where other notation programs offer more control. If you're happy with the notation program you already have, stick with it. That said, if you're short on time or chops and you need to rework some existing sheet music, SmartScore is your salvation.

— John Krogh

rating 🍎🍎🍎

$399, Musitek
805-646-8051
www.musitek.com

👍 **Excellent recognition of music notation elements, easy to use, fast**

👎 **Limited page layout features, buggy**

Simply Postage

If you work at home, then you know that those trips down to the post office can be a mixed blessing. Sure, they force you to get you out of the house and take a break, but waiting in long lines just to get a package weighed or buy some stamps is enough to try anyone's patience. Neopost's Simply Postage system brings it on home. It's composed of a stamp dispenser and scale, with an account to download postage directly from the Internet.

Simply Postage is a service, rather than a product. So instead of buying the hardware, you rent it, and this has a number of benefits. If it breaks, Neopost will fix it, and if Neopost comes out with any improvements, then you'll get the new hardware.

The postage dispenser is a small dedicated printer, a little smaller than a CD storage box, expressly for this purpose, and in the tradition of Mac-friendly peripherals, it is festooned in translucent ice-colored plastic. Cool status lights on the front shine through the whole face of the unit. The scale is similarly adorned and is very simple — aside from its rubber scale pad (which comes in the five Mac colors), the only other element is a glowing red light, which blinks when objects are being weighed.

The scale is smallish, with a sunken platform, but it's rated for up to six pounds, and it was able to handle most of the large, flat packages I tried it out with.

You make all of the required adjustments from your Mac, via a very simple, clear control panel. From here you can easily set the amount of postage, download additional postage, select from a list of standard postage rate classes from the Postal Service, factor in the weight of a parcel you've placed on the scale, and print postage.

The Final Decision If you have a home-based business, Simply Postage could be one of the most important additions to your home office. For a relatively nominal fee, you'll have most of your post office needs taken care of right in house.

— David Weis

rating 🍎🍎🍎🍎🍎

$15 per month, Neopost
800-624-7892
www.neopost.com

MacHome MACnificent award

👍 **Easy to set up, easy-to-use, push-button software interface, good feedback, comes in five Mac colors**

👎 **None**

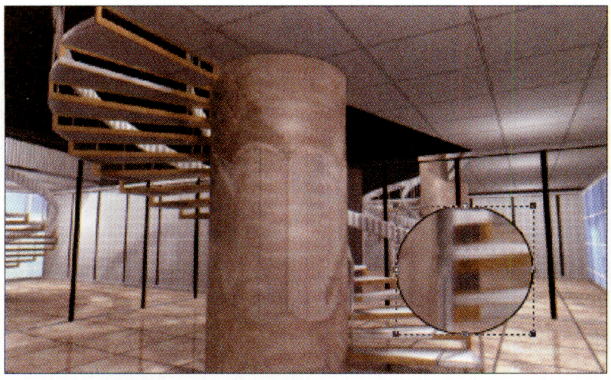
Stretching the Mac Canvas

Close-Up on Canvas 7

By Jackie Dove

For graphic and Web designers, it seems as if each new day brings yet another addition to the bulging toolkit of art and design programs. So it's no surprise that many seek a single tool that can perform a multiplicity of tasks. Enter Canvas 7 from Deneba.

For the reasonable price of $375, Canvas 7 integrates page layout, vector illustration, pixel painting and image editing, and Web design into one program. Among its 150 new features are SpriteEffects, advanced Internet features — including GIF animation — and drawing enhancements. Canvas 7 comes with CDs full of fonts and clip art and an extensive instructional manual.



Use the Lens effect to emphasize selected parts of your image.

A Pretty Face

Canvas 7 has a simple and pleasing interface that allows you the flexibility of arranging your tool palettes. Anchored in a docking bar, you can click and drag any palette anywhere on your desktop.

The Mac-friendly interface let me learn much of the program without having to read the manual, and veterans of other illustration or image-editing programs will likely catch on to much of the Canvas logic.

One of the hallmarks of version 7 is the new SpriteEffects, a technology that lets you apply image editing filters such as blur, hue, posterize, saturation, and twirl — including third-party Photoshop plug-ins — to any Canvas object, be it bitmap (pixel-based), vector (mathematically delineated curves), or text, while leaving the original image or text fully editable. SpriteEffects are handy and easy to use. Lens effects, a SpriteEffects feature, lets you magnify, move, and add effects to parts of your image. You can preview those effects in real time.

For illustrations and publications, Canvas makes creating multipage documents easy and intuitive. Macros give you sophisticated page layout functions. You can also create headers and footers, automatic numbering, and text wrapping. Canvas 7 even has a spell checker.

This program also features some very powerful drawing tools, making it easy to edit and color vector objects. You can add strokes and fills in a quick, intuitive manner, and experiment to your heart's content with a simple click and drag. Similarly, I found gradients and textures to be easy to apply. An Easy Shapes palette — which include speech balloons, diamonds, and arrows — gets you started on certain drawing tasks, and I found the shapes fun and easy to use.

Tool Troubles

There are some downsides to Canvas 7, notably in the Text tool. The program insisted on reverting back to the previous typeface I used rather than the one I recently applied. Also, watch out for bitmap typefaces that come without a corresponding printer font, as Canvas will not recognize them. I also found rotating text around circular objects somewhat hard to handle.

Moreover, while I was much impressed with the HTML export function in theory, in practice, it did not function quite as smoothly as I would have liked, and the resultant Web layouts were far from perfect. The FTP function did work well, however.

The Final Decision

Canvas 7 is easier to learn than Photoshop, Illustrator, or Freehand, but it also does not replace these programs. Nonetheless, I expect that this versatile and reasonably priced program will serve the needs of many graphic and Web designers who do not need some of the more advanced functions of the Adobe or Macromedia behemoths, but who want to create GIF animations, fancy type, and special effects for both paper and electronic documents. MH

rating ●●●●

Canvas 7
$395, Deneba
800-733-6322
www.deneba.com

Vast range of functionality, ease of use, reasonable price, integrated FTP function

Text tool somewhat clunky, text rotate hard to handle, Web uploads flawed

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DESTINATION:
ENDZONE

STATUS:
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Seek and Ye Shall Find

Search Engines Yield a World of Information

The Internet has sometimes been compared to a gigantic library, wherein all information stored on every computer can be accessed by every other computer wired into the Net. One of the blessings of the Internet is its ability to be cataloged and searched for specific information.

New sites are posted on the Web on a minute-by-minute basis. The NEC Research Institute in Princeton, New Jersey, calculates that, as of February 1999, there were about three million servers hosting some 800 million pages. With that many documents now in storage on servers worldwide, there must be a way to find out where they are and what they contain. But unlike the library, there is no single system that catalogs the data.

However, a properly conducted search will give you a good idea of what's available on your topic of interest.

The significance of Internet research is that it both supplements and circumvents corporate media gatekeepers such as mainstream newspapers, radio, and TV, giving you input from independent sources. While much information found on the Web is considered "unreliable," much noncommercial or advocacy information can be quite illuminating.

The Tools

Internet search tools are far from perfect. According to NEC, major search engine databases were found to contain only a small percentage of existing Web pages. But it is not size, but relevance, that determines a search engine's value to you. If the Website or topic you are looking for comes up in the top 10 results of a search, those results are considered highly relevant. If you simply get hundreds and hundreds of hits (URLs) that don't interest you in response to a query, then your search is a waste of time.

But search engines are getting better, according to search engine expert Danny Sullivan, founder of the Website Search Engine Watch, (www.searchenginewatch.com). "Search engines have become more useful and accurate. In particular, many have introduced ways to help users better focus on what they are looking for. A good example is at Alta Vista. Search for something like 'travel,' and on the results page, you'll be shown 'related searches.' These are other popular searches that contain the word *travel* — click on any of them, and you can easily perform a more specific and related search. It's a useful feature, and one that has shown up on several other search engines."

What's a Search Engine?

In the five years that the Web has grown from a cult hobby to a consumer and corporate craze, search engines have emerged and evolved. For instance, Yahoo, now a multimillion-dollar company, started out as a humble collection of the owner's favorite Websites. Before long, word of the popular Website spread and Yahoo was deluged with requests from new Web designers asking to be linked to the site. Today, Yahoo is a major Web portal, one of many.

A search engine is a program that scans documents for certain keywords (the words you type in a search query)

and returns a list of Web pages in which they're found. You can use such keywords to search the Web as well as Usenet newsgroups, discussion forums that reside on a non-Web location of the Internet.

When you type in a keyword, you get a list of links containing that key word. Then, it's up to you to follow each link to the listed site and browse through the information to see if it's what you want.

All search engines work in a similar way in that they use programs called "spiders," "robots," or "crawlers" to scan the Web and follow links between documents. The pages that spiders collect are placed into a master database or index. Each engine uses its own formula or algorithm to index information. For example, some engines search only for titles of pages, others for the first few lines of text, and then others pull every single word from a page. This is done automatically, without human input.

As the Web matures and gets more sophisticated, and pages are moved or taken out of service, not all links found by search engines will be valid. Eventually inoperable links are removed, but that can take time.

Because of differing algorithms, the same search in two different search engines can come up with different results. A thorough search involves at least two or more individual search engines and a metasearch engine (one that does a simultaneous multi-engine search) thrown in for good measure.

When you hit a site you like from a search engine, look for that site's list of links or hot links.

How Do Search Engines Search?

There are two major kinds of search engines. Directories, typified by Yahoo, are manually created catalogs of Websites that are reviewed and classified by warm and sensitive human beings. When you search Yahoo, you first select a main category and drill down into subcategories until you find the information you're looking for. Directories generally incorporate search-engine technology along with a directory service, meaning that there are several ways to search most sites.

Search engines search according to mathematical algorithms, which scan the search engine's database for matches to keywords or phrases.

A site is more likely to be picked up in a search if another site is linked to it and if the owner of the site "registers" it with the search engine. Sites that contain keywords in its title, or near the top of the page, are likely to show up in a search.

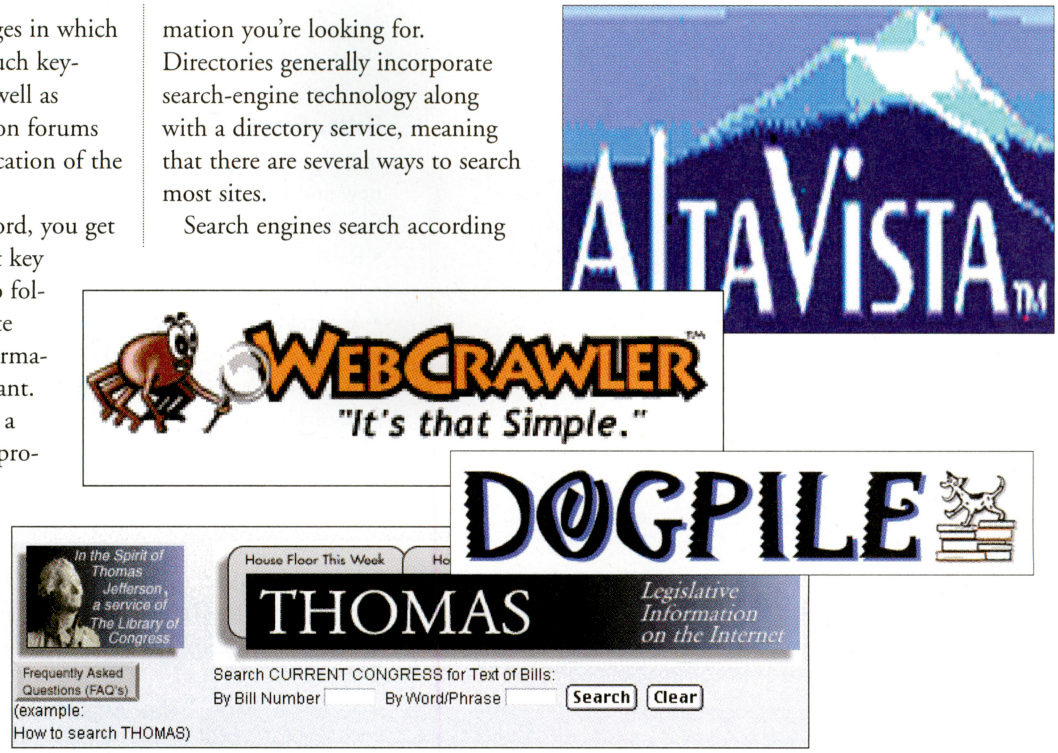
What combination of search engines should you use? There is no scientific answer. Start with the ones you know — Yahoo remains one of the most popular — then experiment with different ones. Because the relevance of a site is determined by a computer, expect a search engine based on a robot or spider to serve up irrelevant sites.

Then, too, many search engines have morphed into portals, designed as a primary gateway onto the Web. A portal is designed as an anchor site that opens as your default browser page and can be identified by its text-based interface and search boxes, a form pioneered by Yahoo. Well-known portals include Yahoo, Excite, Netscape, Lycos, the Microsoft Network (MSN), and America Online (AOL).

Boolean — And, Or, Not

Whether you are using a directory or a spider, the quality of your search query determines the results — the more specific and creative your keywords, the better. Says Sullivan, "Don't search for 'travel' if you really want 'Yosemite Camping Reservations.' The more specific and creative you are, the more likely you are to find what you are looking for." Thus when you conduct your search, try to think up at least three different keywords.

The most popular Web-search technique is known as Boolean searching, and its major operators are the words And, Or, and Not. As a substitute for those three words, you can often use the plus (+) or (-) minus signs in some engines to signify the words And/Or and Not. A search for an exact phrase or a proper name can simply be wrapped in quotes so the engine knows to search for the words as a unit. A Near command lets you search for terms that are in close proximity within a document, although different engines may have different interpretations of the Near operator. Indeed, search engines do not necessarily accept all Boolean commands in the same way, so it is best to check the indi-



There are many different search engines on the Net. Try to use ar least two or three different ones when researching a topic.

vidual policy of each engine concerning the best way to search, or check Sullivan's Web page, Search Engine Watch.

Better Services

Search engines tend to reinvent themselves over time by adding new and improved technologies and services. Enhanced search functions can include the following:

- Related searches or similar searches.
- Results clustering, listing only one page per site.
- Automatic phrase searching, wherein the engine extracts phrases (words in sequence) instead of keywords from your query.
- Find similar, giving you similar pages to ones you already like.
- Stemming, which searches for variations of keywords for additional results — for example, swim, swims, and swimming.
- Sort by date, date range, and date, which display results by date.
- Search within, to narrow down a search to a particular category.

Metasearch engines such as Metacrawler (www.metacrawler.com) and All in One Search page (www.allonesearch.com) give you results from many different search engines at one time, including other metasearch engines.

New Engines

New search engines are constantly emerging. Google, for example, departs from its crawler-type brethren to base its results on link popularity. "I think Google deserves much of the attention it has gained, because its results tend to be right on target, many times," Sullivan says. He also praises Open Directory (www.dmoz.org), a volunteer-run directory that lets other search engines use its "human-powered" results. While Netscape actually owns Open Directory, it offers the data free of charge to other search engines.

In addition to information about subjects, you can also find specific search engines that will give you information about people, businesses, and government agencies. Several search engines and directories have specific resources for this type of search, and Website portals often link to these resources. Enter a name, or a name and location, and get information on people and their email addresses. Some listings even have addresses and phone numbers.

Are You Being Served?

How do you know if you and your search engines are conducting effective searches? Ask yourself the following questions.

- Is its operation easy to grasp?
- Did I get a lot of accurate results?
- Were the first 10 results relevant?

If the any of these answers is "no," refine your search with more specific keywords, and try a different search or metasearch engine. MH

Specialized Engines

As the Web evolves, search engines are not only getting better but more specific, often covering discrete topics. While it's always possible to search Yahoo for absolutely everything — and many people do — you can improve your chances of finding exactly the information you're looking for if you use a search engine that's specifically targeted to your subject.

Congress and US Government: We all want to touch base with Uncle Sam, and the Thomas Legislative Information Website lets you do just that (http://thomas.loc.gov). This site lets you look up legislation, the Congressional Record, and committee information.

Get Directions: Need to go somewhere? Mapquest (www.mapquest.com) gives you detailed directions including all streets and turns. It's very useful for drivers who need a compass.

Calling the Law: Internet Legal Services (www.findlaw.com) can assist you in doing legal research on the Web and is great for consumers, students, business people, and lawyers. Search through the document library, legal dictionary, legal news, US government sites, and more.

Keeping It Clean: Many Web searchers have rightly worried that their children will be inadvertently directed to pornography or hate Websites, even with seemingly innocuous search terms. So how do you keep the kids searching the Net and away from inappropriate material? Lycos' SearchGuard enables kid-safe searching that screens out inappropriate material. A family-friendly search engine called Hopnshop (www.hopnshop.com) does not index sexual content, illegal activities, or hate Websites.

Mac Search Engines: For all things related to your Mac, there are all-Macintosh search engines. The Macinstein Mac Only Search Engine (www.macinstein.com) is an all-around Mac information center. Macinsearch (www.macinsearch.com) provides both a directory and a keyword search, leading you to topics such as applications, graphics, printing, news, and more. A full-blown Mac portal has been recently announced called MacLaunch (www.maclaunch.com), complete with headlines, downloads, and a search engine.

Popular Search Engines

Alta Vista
www.altavista.com

Deja News (newsgroups)
www.deja.com

Dogpile
www.dogpile.com

Excite
www.excite.com

Google
www.google.com

Hotbot
www.hotbot.com

Infoseek
www.infoseek.com

Lycos
www.lycos.com

MetaCrawler
www.metacrawler.com

Microsoft Network
www.msn.com

Netscape
www.netscape.com

Northern Light
www.northernlight.com

Open Directory
www.dmoz.org

Savvy Search
www.savvysearch.com

WebCrawler
www.webcrawler.com

Yahoo
www.yahoo.com

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By Molly Wood

Private and Hi-Tech:

Edison Project Tackles Privatized Education, High-Tech Learning

The debate over how to educate kids has never been greater, as school violence, dropping national test scores, bottomed-out teachers' salaries, and student apathy combine to erode our collective faith in education.

Though ideas abound for fixing schools — everything from school vouchers to home schooling — most have been controversial, and few have managed to carve out a foothold in our educational zeitgeist.

Enter Edison Schools (www.edisonproject.com). Controversial as hell but surprisingly tenacious, the project was founded in 1992 by Chris Whittle, creator of Channel One, a short-lived television news network with advertising aimed at public and private schools.

With an phalanx of Macintosh computers; an idea for education that includes consistent fundamentals such as art, physical education, and language learning; and a $122.4 million IPO (initial public offering) under its belt, the Edison Schools project is out to prove it's time to turn teaching around.

Breaking New Ground

Edison is a private, for-profit organization that runs 79 public schools across the country — many under the umbrella of state charter school laws — and is negotiating for more. More than 37,000 students attend Edison Schools in 16 states, and the Project controls the curriculum, technology, and management of the schools.

With an emphasis on technology, group discussions, comprehensive curricula, and improving test scores, Edison officials say the Project aims to make money by running schools more efficiently than do school districts.

In return for taking over the schools, Edison is paid the per-pupil allotment a school district has already received. Edison then invests substantial amounts of its own money to pay for technology or programs the schools don't already have.

The schools remain public and open to all students, funded with tax dollars, and the Project can lose its contract to manage the schools if it doesn't meet its academic goals.

So far, Edison's money-making formula hasn't been exactly successful — in its nearly nine years in existence, the company has failed to turn a profit in any of its schools. Studies of its effectiveness in raising test scores and improving education have shown mixed results: Some schools report vast improvements, while others have remained unchanged or have declined. And opponents have accused it of commercializing education, possibly at the expense of students.

But as a tribute to its staying power, and possibly its innovative nature, Edison went public in November 1999. The company completed an initial public offering of 6.8 million shares of class A common stock at $18 a share, for total proceeds of $122.4 million, which Edison said will be applied toward the opening of new schools.

Max Classroom

One of Edison Schools' more impressive aspects is its use of technology in and out of the classroom.

When the Project takes over a school, it immediately deploys an arsenal of Macintosh computers. iMacs are sent home with every student from the third grade up, and the kids' parents receive six hours of training in such fundamentals as how to use a mouse and access email.

The students and their families get personal email addresses so they can access Edison's intranet, called The Common, which is home to discussion

groups, student report cards, classroom resources, and news and information. Parents also have access to ongoing tutorials in hardware and software use.

Further, every teacher receives a PowerBook (no iBooks yet) on which they chart students' progress, prepare reports and report cards, and develop their curricula.

And every classroom is decked out with Apple G3 desktops and minitowers, which are networked to each other and to The Common, and then wired to big-screen displays in the individual rooms.

So integral is the technology that the schools' technology director is actually referred to as the "TSL Director," which stands for "Technology as a Second Language," says Virginia Davis, the woman who holds that title at an Edison elementary school in San Francisco.

Kids become accustomed to using computers early and often for research, assignments, and fun — and so do their parents, said Don Sunderland, Edison's chief information officer.

"It's an inherent part of our design," Sunderland says. "We make sure that we provide Edison households with the ability to dial in, pick up homework, share in discussion groups, and to use it as a research basis as well."

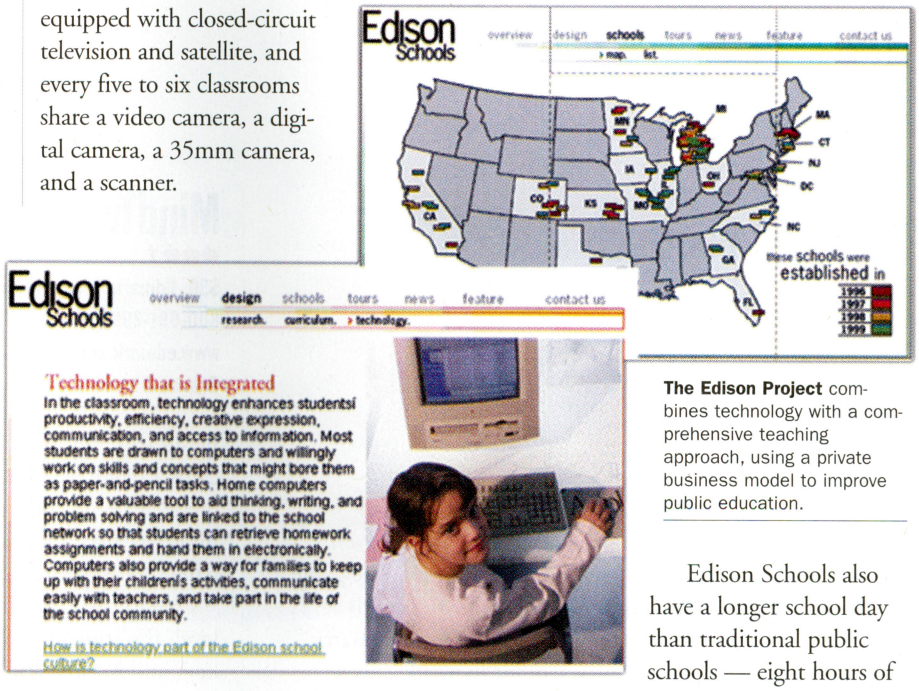
Edison Schools strive for a 3-to-1 ratio of kids to computers, and, ideally, would like to outfit every student with a brand-spanking new iBook, Sunderland says.

"I would love nothing better than to give an iBook to every one of our kids," he says. "But that would be a huge, huge leap for us financially."

Sunderland says Edison is appealing to Apple in hopes of upping the Mac ante at the schools, but so far no iBook deal has been struck.

Still, few schools, if any, employ technology in greater numbers than Edison.

In addition to the preponderance of computers, Edison students start out each day with an "Edison live" morning broadcast, experiment with software throughout the day — for presentations or projects — use email, design Web pages, and use the Internet and the schools' own intranet information system. The classrooms are equipped with closed-circuit television and satellite, and every five to six classrooms share a video camera, a digital camera, a 35mm camera, and a scanner.



The Edison Project combines technology with a comprehensive teaching approach, using a private business model to improve public education.

Plus, each week, Davis says, the elementary school pupils are given an assignment they must complete at home and then email back to a teacher.

"I was a tech director for 14 years, and then I heard about [Edison], and I thought, 'What can really happen if you have all these components in place? What can you do?'" Davis says. "It really is an integral part of the school, like blackboards — except we use dryboards."

Master Plan

Technology isn't the only force driving Edison schools, though, Davis says. The schools' whole focus is more comprehensive than most public schools have managed — but using, in theory, the same amount of money.

Educationally, Edison Schools use a variety of approaches, emphasizing reading, group discussions, and class variety.

And while subjects such as art, language, and music are slowly disappearing in other public schools, Davis says they're protected and valued in Edison Schools.

"Those basic fundamentals that you don't always find, and that are crossed out when budget cuts come, those are a given here," she says. "The students are receiving so much more in the design itself. I cannot say that it's the technology alone."

Edison Schools also have a longer school day than traditional public schools — eight hours of classes — and a longer school year — 200 days versus 180.

After These Messages

The schools have so far been unable to prove whether their methods work better than any others. Reviews have been mixed, although some schools' test and performance scores have soared.

A report by the American Federation of Teachers in May 1998, found that the project itself has much to recommend it, including the longer school days, widely accepted teaching practices, and highly motivated parents. But the Federation found shortcomings including too few tutors, large classes — averaging about 28 students — inexperienced teachers, and high teacher turnover.

Still, the teachers' Federation acknowledged that Edison's philosophy is sound, and tweaking its faults could lead to eventual success.

But opponents of the project say private companies shouldn't be involved in public schools under any circumstances. They say a for-profit company must necessarily put cash before kids.

Still, Edison's true believers say education is the priority. And as long as current public school methods continue to fail children, Edison schoolers believe, it will be up to innovation to make sure they turn out all right. MH

Backyard Football

$19.99, Humongous Entertainment
800-499-8386
www.humongous.com
Power Mac/Windows hybrid
Ages 5 to 10

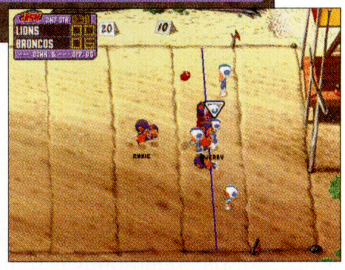
Kids have all the fun. Or at least they're supposed to.

Humongous Entertainment has come up with *Backyard Football*, a new offering in their Junior Sports line. The game has a cool premise. Neighborhood kids join hands with a clever mix of such prepubescent NFL players as little Barry Sanders and Stevie Young to play sandlot football.

Nice, huh? Too bad the kids won't have all that much time to enjoy it.

Why not, you ask? That's easy. Dad.

The game is supposed to be for youngsters from 5 to 10 years of age, but, like those Lionel train sets that some fathers bring home for Christmas, the kids will end up sharing the computer with the old man, if they're not crowded out entirely.



It's a fun game. Five kids on a side, running, passing, and kicking on grass and sand surfaces, with rain and snowweather effects. Smack little Brett Favre with a good tackle, and he whines, "Ow, that hurt." Gotta love it.

The game has a problem. As a die-hard Dallas Cowboy nut, I was eager to see a young Troy Aikman, Emmitt Smith, and Primetime Deion Sanders beating up on all the other neighborhood teams. No such luck. My editor at *MacHome* is a rabid Redskins fan, and he's apparently in collusion with the game designers. Sure, you can elect to play as the Cowboys, and there are some terrific tykes waiting to be chosen as quarterback — little John Elway, Brett Favre, Dannie Marino, and Randall Cunningham, to name just a few. But — sob! — no Troy Aikman.

But hey, if the Humongous people gave us full pro lineups, every dad in the country would be hogging the game. There wouldn't be a kid within 10 feet of any computer.

And, darn it, I guess that wouldn't be fair.

—John Lee

MindTwister Math

$30, Edmark Corporation
800-691-2988
www.edmark.com
Grades 3 to 4

Flashcards and drills. *MindTwister Math* reminded me of the cards I made in elementary school so I could practice arithmetic at home with Mom. Presented as a game show, this program incorporates four levels of difficulty and a variety of panels with questions testing arithmetic skills.

One to three players can play. After deciding the difficulty level, the student chooses a scorekeeping graphic and a "hot key" and begins. Students play the game *Jeopardy* style by pressing their assigned key in answer to questions. There are time limits, so it can be exciting. In these games players practice measurements, probability, geometry, fractions, and more.

But while the difficulty can increase, the games don't change. Because of this I found myself asking, "Is that all there is?" I kept waiting to move into other areas with additional fun or cool graphics that children today may take for granted.

As the problems move across the screen, players race to answer, and with more than one player the excitement grows. Sometimes like there wasn't enough time to think over answers, but rapid answering is the essence of drills and memorization.

A graphic resembling a video-game controller can be employed to start new games — something kids might find a little more friendly than a stoic menu. By pressing the Esc key during a game, the player moves back to this controller to re-choose game options and begin a new game.

Special needs students have been remembered, however. Turning on built-in scanning allows students to play using a special switch, clicking the mouse, or pressing the Space Bar. Complete keyboard coordination isn't required. Teachers, parents and students will appreciate this feature.

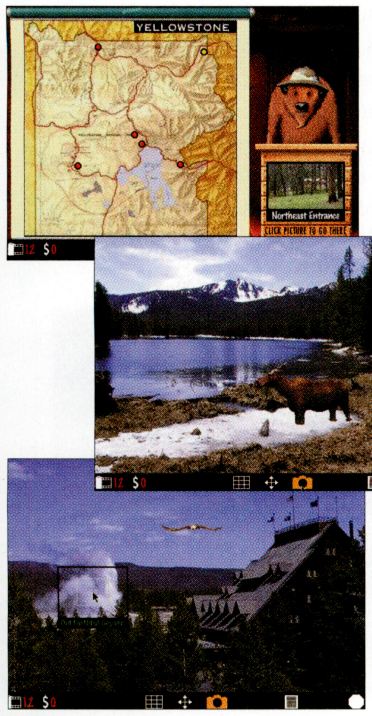
—Judith Rosado

Photo Hunt in Yellowstone

$20, True North Studios and Periscope Productions
415-460-1237
www.photohunt.com
All ages

My dad, a tree hugger akin to many across our glorious land, will embrace *Photo Hunt in Yellowstone* as he does his subscription to National Geographic. This is the first in a series of educational games for competitive spirits who want to learn about and explore nature without getting wild.

This luxuriously paced safari challenges players to take/click nine different photos from twenty-four crisp and authentic park scenes. Find a mule deer at Mammoth Hot Springs, a "carrion eater" (the not-so bald eagle with its 7,000 feathers) at Old Faithful Inn, or a bison (don't get too close!) at Madison Junction. A trivia question accompanies each photo dragged onto the game board, with categories including Tourism, Flora, Land, and History. Once this board is full, players wager $0 to all of their earnings on a bonus round. Because I competed online for a digital camera (each month's top bobcat wins a nifty prize), the gambler in me took over — double or nothing got me to slot #9 on the worldwide contestant list, but, alas, no camera.



This game was designed to entertain mama, papa, and baby grizzly, but there are a couple of thorns on the flip side of the paw. Some may not mind, but I was bugged by the repetition of trivia questions after playing several games. I also became frustrated that the wonderful field guide, offered for players to reference during play, wasn't more expansive. For added nail-biting, I would've welcomed detractions for my mistakes (maybe bigger growls from host Bob Bison).

Had I played *Photo Hunt* before visiting Yellowstone a couple of years back, my gained insights would've had my travelling companions, including my dad, howling with delight. Next time I'll wow 'em — "Look, there's a trumpeter swan, the largest waterfowl in the world!" instead of, "uh, look at that big duck."

—Carolyn Blackburn

Yoda's Challenge Activity Center

$30, Lucas Learning
415-448-8000
www.lucaslearning.com
Ages 6 to 8

It comes with free stickers? What's not to like? Not much, if your child doesn't mind being placated with sickeningly sweet and generic praise. *Yoda's Challenge* seeks to teach children through the lovable characters of *Star Wars: Episode One*, that massive cash cow that has taken over the hearts and souls of kids everywhere (well, okay, maybe not the Pokémon-addicted kids). There are six activities to choose from, each focusing on a different skill. While none of these activities teaches anything terribly new, there are definitely some new ideas in the actual delivery of the information.

While your kids will probably find it less irritating than you will, you'll definitely want to leave the room while junior plays with *Yoda's Challenge*. As with *Jar Jar's Journey*, the pseudo sequel to this title, which we reviewed in January 2000, the dialog and voice acting are incredibly annoying. It may sound trivial to point this out, but any parent who's had to sit through an episode of Barney knows the true horror that is in store. Even your kids will notice the bland comments that come from the voice actors who praise players with such comments as, "This person is very intelligent!"

The activities come up being half and half: Race to the Finish, Unscramble the Computer, and Programming C3PO are great learning activities, while Exploring the caves of Naboo, Trapping the Droids, and Jamming with the Band aren't the most educational activities. While there's lots to be learned here, it's not a safe bet that they will appeal to most kids. Trapping the Droids, especially, could cause an uproar in your household, as it tries to teach rhythm; if your kid has no natural rhythm (like me) this will be a very frustrating activity.

—Alex Handy

By Alex Handy

One Game with Mayo, Hold the Violence

A Guide to Gaming without Bloodshed

The one thing we haven't written here at *MacHome* is a guide for games that won't make you double over with horror: games without gore. Whether you love violent video games or hate them, you've got to admit that they certainly can be gut wrenching. So for those of you who can't stand the sight of blood, here's a comprehensive guide to games that even Ghandi would love.

It's Time I Used Some Stragedy

If you want to nurture life rather than crush it, you can't get more cuddly than *Simcity 3000*. From start to finish, this game will have you hooked … Oh wait, there is no finish! You assume the role of mayor in a budding young town, and it's your job to build your little 'burb into a bustling metropolis. You get to play grand city planner and place everything you need to keep your town humming right along. Put industrial zones near residential areas and your citizens will grumble and move away. Fail to build enough police stations and crime will send people to neighboring communities. The key to fun in *Simcity* is the freedom you have to sculpt your own dream town. Your city isn't "done" until you say it is. You can make a quiet little mountain village just as easily as you can build a skyscraper-filled New York clone.

The fun here is in nurturing your town. Cities grow as they would in real life, so you can replicate your home town and fix those little things that irked you so much. Zoom in and you can see your citizens driving to work or walking to the store. It really gives your town a nice homey feeling. A few years ago Maxis, the company built on the *Simcity* dynasty, attempted to build an empire of *Simcity*-inspired action games. Games such as *Streets of Simcity* and *SimCopter* allowed you to drive or fly through your cities wreaking havoc on your citizens. Fortunately, neither of these wastes of plastic made it to the Mac, and we were spared the bastardization of a classic genre. Today, things have returned to normal in the world of *Simcity,* and once again we are blessed with a place where SimCitizens can live in peace.

Of course, not all nonviolent video games leave their citizens alive and kicking. Nonviolent does not mean that eggs don't get broken. Take *Civilization: A Call to Power,* for example. You start out as the chief of a small tribe of nomads in 3000 BC. You must build towns, establish a government, and build an empire to withstand the tests of time. Along the way, you'll have to deal with other civilizations muscling in on your territory. Of course, you realize, this means war. Fortunately, battles in *Civ: CTP* aren't bloody and resemble battles in games such as *Risk* or *Axis & Allies.*

We were blessed with an early preview copy of *Civ: CTP* here at *MacHome,* and it's kept us glued to our chairs for hours at a time. If you've never played the original *Civilization,* I'm not sure it's a good idea to start now. I've seen grown men pull their own metaphorical arms off rather than be dragged away from a game in progress. The *Civilization* series is one of the most addictive substances known to man — worse than nicotine. Be forewarned: This game will not let go of you.

Battle tactics aren't the exclusive realm of the violent game either. In *Total Annihilation* you're charged with playing

a commander in the midst of a massive interstellar war. The battle has raged for thousands of years as robots (not humans) throw themselves into a dire battle for supremacy. Forged in the traditions of such games as *Command & Conquer*, *Total Annihilation* offers a breath of fresh air in the otherwise stale real-time strategy genre. Gameplay is fast and furious as you build new troops and send them to the front while managing your resources and defending your base.

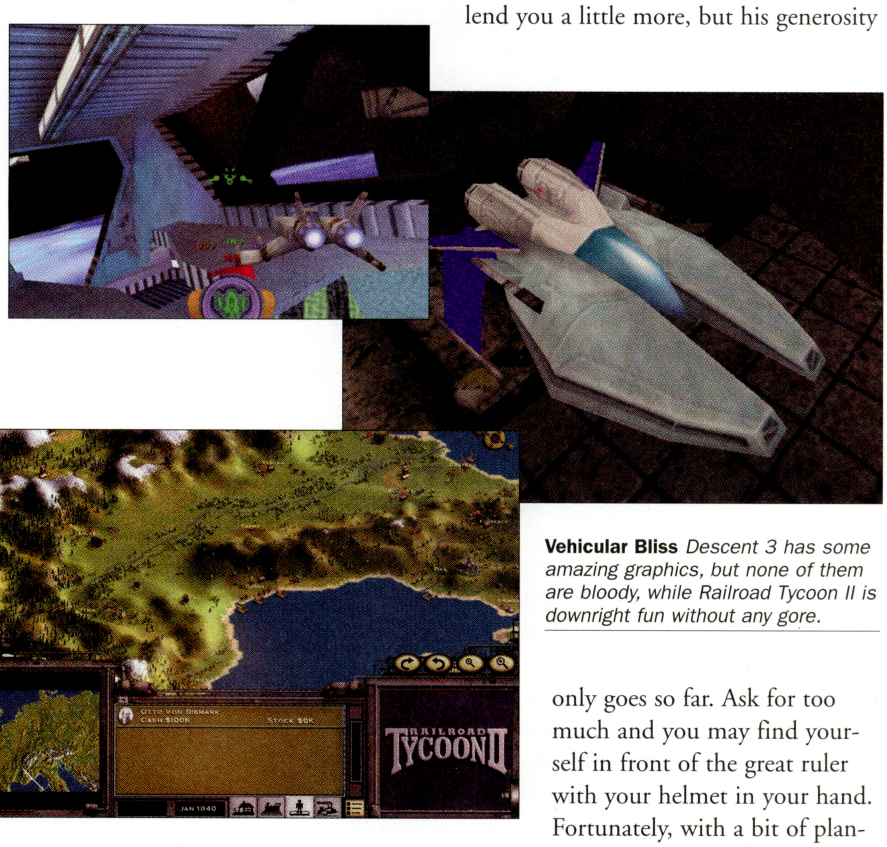
The sheer number of units available in this game is staggering. There's a troop type to satisfy every battle need. You can use almost any strategy you can come up with in this game. Want to play it sneaky? Use a radar-jamming 'bot to hide your squad as it comes around to flank the enemy. Like battling it out on the water? You can build a base in the ocean just as easily as one on land.

And the fun doesn't stop there. You can play *Total Annihilation* online with GameRanger. (While GameRanger does not support *Total Annihilation* at the time this was written, we have been assured that it will in the near future.) If you've not discovered GameRanger yet, it's on our CD this month, or you can download it at *www.gameranger.com*. It's a brilliant utility that connects you to hundreds of other Mac gamers all waiting to go toe-to-toe with you in every game you can imagine. GameRanger makes Internet gaming easy.

Truckin' on down the Line

If you want to go for "no conflict" in nonviolent games, and you miss your old model train set, take a gander at *Railroad Tycoon II* from Gathering of Developers. Who'd have thought that playing with trains could be so much fun? You're a full-fledged robber baron, and you've got to set up your railroad network before the competition can get a foothold in your cities. You oversee the building of tracks, the purchasing of trains, and the establishment of routes on your lines. Make sure you lay your tracks in major cities as quickly as possible: It's much harder for the competition to connect to a town that already has a track connecting it to the world. If you want to play rough, you can always resort to a hostile takeover of the competition by grabbing up as much of their stock as you can get your hands on.

The beauty of this game is in the micromanagement. Building tracks is only half the fun: you've also got to maintain your stations and keep an eye on the bottom line. You can make a lot of extra greenbacks by delivering boxcars full of wool to textile plants, but don't expect that to be enough to keep you afloat. Make sure your trains are delivering supplies where they're needed because a wasted carload of goods is as sure a way as any to hurt your profits.



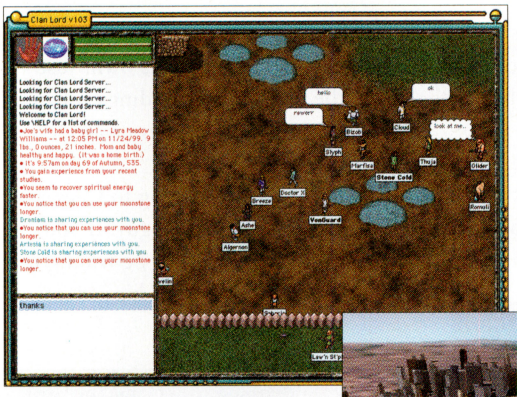
Vehicular Bliss *Descent 3 has some amazing graphics, but none of them are bloody, while Railroad Tycoon II is downright fun without any gore.*

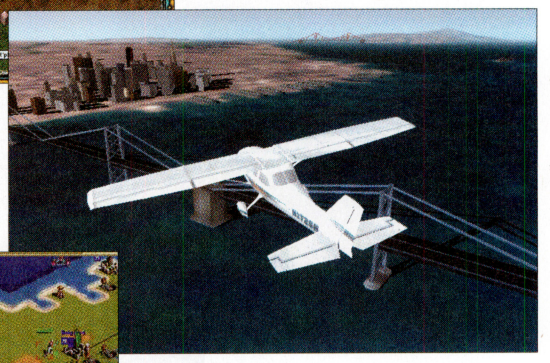
Of course the 1800s aren't the only place in history for simulation/strategy games. *Caesar III*, while not quite as bloodless as these other games, is a great game for history buffs. Brush up on your Latin skills and head to Rome for an all out city building extravaganza. *Caesar III* is a bit like *Simcity* with foot soldiers and raging hordes of barbarians at the gate. You'll have to build aqueducts and coliseums while currying favor with the gods. Pay too much attention to Venus, and Mars might send an army to knock down your city. That is, if your city doesn't fall down on its own. Just like in the real Rome, buildings collapse, fires break out, and plagues ravage sections of your town.

But don't go complaining to Caesar; he's not a terribly friendly guy. If you run out of money, he may be willing to lend you a little more, but his generosity only goes so far. Ask for too much and you may find yourself in front of the great ruler with your helmet in your hand. Fortunately, with a bit of planning you can make your city turn a profit over time. Be sure to use your natural resources to their fullest extent. Building wineries and olive farms can create valuable export items that will help bolster your monthly income. And make sure you keep a standing army on guard at all times; you never know when the Saxons will drop in unexpectedly looking for a free meal.

Rolling the Bowl

Strategy games aren't the only ones that can play nice. There's a vast array of great nongory games without the strategy twist on them. Take *Big Race USA*, for example. This is one of the best digital renditions of a pinball game you'll ever find. If you've got a hankering for pinball, you can't possibly go wrong with this one. Owning a copy of *Big Race USA* is a bit like buying a full upright table: the





Flying High Games like *Clan Lord*, *Fly!*, and *Civilization: CTP* add to their replay value by making heavy use of the Internet.

gameplay is dead-on accurate. There are plenty of gadgets, ramps, bonuses, and secrets to keep you occupied for hours. The ultimate goal of the game is to complete a race across the U.S., but just getting into the race is a challenge. You'll have to spend a good chunk of time racking up the points to get access to the game's race mode. But the gameplay is rewarding and ringing up phenomenal scores becomes easier with practice. It's rare to find a game that's so simple yet so exciting and rewarding.

If pinball is a bit too slow for your tastes (but believe me, *Big Race USA* is anything but slow) take a gander at *Descent 3*. *Descent 3* brings you all the excitement of a first-person shooter without all the gore and grit. Plus, it adds a whole new dimension to the stale old traditions of first-person games. You're the pilot of a futuristic hovercraft that's got more moves than your average gymnast. In the previous two installments of this game, you're charged with the duty of exterminating robots gone mad from deep-space mining colonies. Now, you've been brought back to Mars and informed that the virus that caused those robots to go berserk is actually the research project of the corporation you were working for. Oops. Now you've got to go in and take out the whole operation. Fortunately, the only baddies in this game are mechanical, so you'll never see a smidgen of blood on your windshield as you blast your way through labyrinthine tunnel systems.

Descent 3 is a gorgeous game, but it's not for those with a weak stomach. Most of the game is spent hurtling through tight passageways at breakneck speeds. You're likely to get airsick in the first few minutes, as there's no restriction on your movement in any direction. Also, this is one tough game. The robots you'll be facing are some of the toughest enemies in the entire video game universe, and they don't sit still for a moment.

Freebird

If you prefer a little more realism in your flight simulations, you can't go wrong with *Falcon 4.0*. This is a game so real it requires a mountain of instructions to play it properly. The PC version of the game was packaged in a three-ring binder filled with the manual; the actual CD was strapped into the back page of the binder. This game brings new meaning to the word simulation. If you're a hard-core air force weasel, you'll be in hog heaven with this puppy. It's the closest you'll ever come to actually climbing inside a real Falcon. Add the capability to battle it out online and you've got one heck of a dogfight on your hands. This game is so real you may find yourself blacking out from the G-forces.

If combat flight sims aren't your style, perhaps you'd prefer to take a look at *Fly!* From Gathering of Developers. *Fly!* simulates the real civilian flight experience. The entire United States is mapped out topographically so you can fly coast to coast without missing a thing. The flight model is dead-on accurate, and each cockpit is a direct replica of the real plane. While you won't be confronting Migs over the Baltic, you'll definitely be able to brush up on your landing skills. This is the perfect gift for anyone who just got their pilot's license.

Not the Face!

The time is close at hand when video-game makers will realize that blood and guts alone do not a good game make. These games represent a good cross section of the gaming world and are each fun without resorting to over-the-top gore and violence. It's an example more companies should follow.

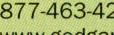
There are other nonviolent games hiding out there. If you're unsure of the content of a game, check out the E.S.R.B. rating in the bottom right-hand corner of the box. MH

Peace, Man

Fly!

Railroad Tycoon II

$49, Gathering of Developers
877-463-4263
www.godgames.com

Simcity 3000

$49, Maxis
www.maxis.com

Big Race USA

$30, Empire Interactive
www.propinball.com

Falcon 4.0

Total Annihilation

Civilization: A Call to Power
(Not reviewed yet)
$49, MacSoft
800-229-2714
www.wizworks.com/mac

Descent 3
(Not reviewed yet)
$49, Graphic Simulations
www.graphsim.com

Caesar III

$40, Sierra
800-757-7707
www.sierra.com

By Alex Handy

Quake Versus Unreal

The demos are out, the players are testing, the gauntlet has been thrown. *Quake 3 Arena* and *Unreal Tournament*, the two titans of online deathmatching, are now out and ready to go toe to toe. We'll bring you a full-fledged face off next month, but for now we've got a first impression for those of you who can't wait to get your grubby little mitts on a copy of either.

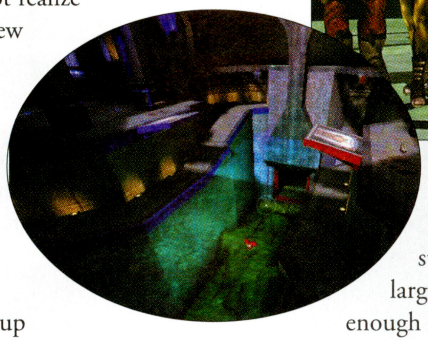
First impressions can be misleading, and such is the case with *Quake 3 Arena*. At first glance it seems as though *Quake 3* is simply more of the same deplorable violence and twitch gameplay that we've all come to expect from developer id. But looking deeper into the world of *Quake 3* we find that there are forces at work that go beyond the norm and send the game into newly discovered territory. Sure, gameplay is fast and furious, and those of you without highly trained reflexes will be smeared into paste by the hard-core *Quake* cognoscenti. But what you may not realize about *Quake 3* is that it is aimed at the new player as well as the experienced.

If you've hungered for competition but been too afraid of being humiliated, *Quake 3* is here to help. The included 'bots will turn you into a hard-core *Quake* fiend in no time. They serve as drill sergeants for the *Quake* impaired. Instead of simply chattering about how badly they're going to kill you, they offer up some advice on how to improve your game. They're also not as heartless as most real players can be: You can tone down their skills to match your own.

Unreal Tournament offers up a different flavor of death match. Rather than relying on the player's "twitch factor," *Unreal* leaves room for more timid gamers to compete on a level playing field. While there are definitely players who will mercilessly thrash you, the gameplay is more forgiving for those with less skill. It's easier to gauge your how much you've improved in *Unreal Tournament* since you're less likely to be helplessly caught in the crossfire of ravaging hordes of skilled players. *Unreal Tournament* lends itself to one on one duels while *Quake* focuses on cluster kills. A game of *Quake* may focus on 10 players trying to kill each other at once, whereas a game of *Unreal* would be more likely to come down to three or four groups of two players duking it out. This is not to say that *Unreal* lacks cluster brawls, just that it's easier to damage a single person than a large group with the weapons that are available in *Unreal Tournament*.

Quake's weapons are still a bit ridiculous.

The rocket launcher is definitely toned down from the days of *Quake 1* when a single rocket could wipe out large groups of players. But the area of splash damage (how wide an area gets damaged when a rocket impacts) is still large enough to make *Quake* a much more violent, much more explosive game. Players tend to rack up higher numbers of kills in *Quake* than in *Unreal* since the weapons in *Quake* do more damage. This is not to say that *Unreal*'s weapons are weak; they simply don't tend to do large amounts of damage over wide areas.



So far, the race seems to be neck and neck. *Quake 3* is twitch gameplay at its best while *Unreal* offers a more refined experience for the casual gamer. Time will tell however, as both games are said to contain a whole slew of as yet unseen bells and whistles. Till then, keep those guns oiled and your mouse clean.

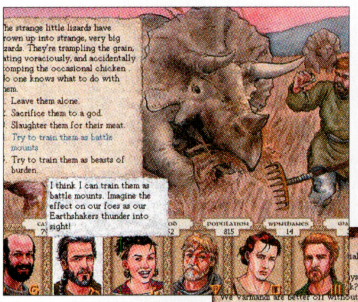
We Goofed!

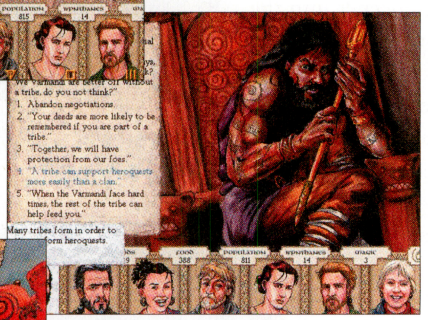
In the December issue we stated that Rainbow 6 was retailing for $40. The actual price is in fact $50. Now go out and buy it; it kicks butt!

King of Dragon Pass

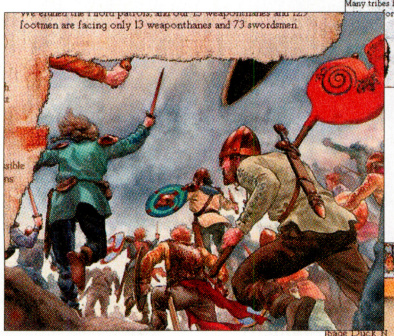
$37.50, A Sharp
www.a-sharp.com

Depth is something seldom seen in a game today. Sure, there's plenty of back story in such games as *Myth* and *Starcraft,* but the replay value gradually diminishes with each return. When you first sit down to a game of *King of Dragon Pass*, you'll be overwhelmed. This game has more depth and mythos than any other I've ever encountered. Based on the table top role-playing game *RuneQuest,* this is one of the few games out there that truly captures the vast possibilities of a role-playing system.





The basic premise of *King of Dragon Pass* is a bit broader than your average strategy game. Indeed, calling it a strategy game is somewhat odd as it plays a little like a choose-your-own-adventure book with beautiful artwork and resource management. You are the leader of a clan of people in the newly settled lands around Dragon Pass. The land was once inhabited by dragons, but it is now being flooded with people seeking fresh new lands to inhabit. You are the leader of one of these newly relocated clans and you must guide your people into the annals of history. The ultimate goal of the game is to unite the clans into one empire under your command, but seeing as how there are dozens of clans to deal with, this feat can take over 100 game years. This translates to about 25 to 30 hours of gameplay. And once you've finished, you can start all over again as a different clan in a different region and never get bored.



To start a game, you must first determine your clan's history in the world of Glorantha. You are given a quick synopsis of the history of the world and the gods, and you choose how your clan behaved during certain historic events. For example, the first question asks how your clan participated in the wedding of the father god to the mother god: Did your clan drink with the father, listen to secrets from the mother, or stand guard at the door? These choices determine how your people will respond to decisions on random events.

Gameplay takes the form of resource management, diplomacy, battle, and exploration. Each turn, or season (there are five in a year), random events will occur. These events can be as simple as "Oberoth's wife hit him with a stick and he's been dishonored; do you punish the woman?" to "The chief's daughter has been kidnapped by the Hior clan; will you attack or negotiate?" Each event takes the form of a multiple-choice question, and the number of choices vary. A Sharp has done an incredible job of giving these events spice and personality, and your choices are usually well thought out and extremely reasonable.

I played this game for hours on end and never once encountered the same event twice. Even when I sent exploration parties to the same mountains over and over again, I never found the same monsters or treasures. There is more depth and possibility in this game than in most movies.

The faint of heart should definitely not venture here, however. You'll become deeply involved with the characters in your clan. Occasionally, you'll need to send one of your leaders into the spirit realm to accomplish a quest charged by the gods. If your hero doesn't make it out alive, you may find yourself shedding a few tears at the loss of your compatriot. Unfortunately, the questing system is a little hokey, and the tests of faith and skill aren't terribly well executed.

Despite this, however, *King of Dragon Pass* is an incredibly immersive game, but the price for this immersion is a steep learning curve. Fortunately, nothing in the game steps out of the turn-based system, so you can take as long as you like to pass a season by. The documentation is excellent, and this game will run on any Power Mac with 24MB of RAM.

King of Dragon Pass feels more like an epic book than a video game. The artwork is truly masterful and the story is intriguing enough to keep you enthralled for hours at a time. All in all, this is a definite sleeper hit.

— Alex Handy

IT'S NOT JUST A NEW WORLD, IT'S A NEW STANDARD.

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- Computer Gaming World

"98%"*
(Highest review score ever awarded)
-PC Gamer

"Alpha Centauri is unmistakably the rightful heir to the Civilization throne. It's also the best strategy game ever made."*
- PC Gamer

"Meier has again set the gold standard for strategy."*
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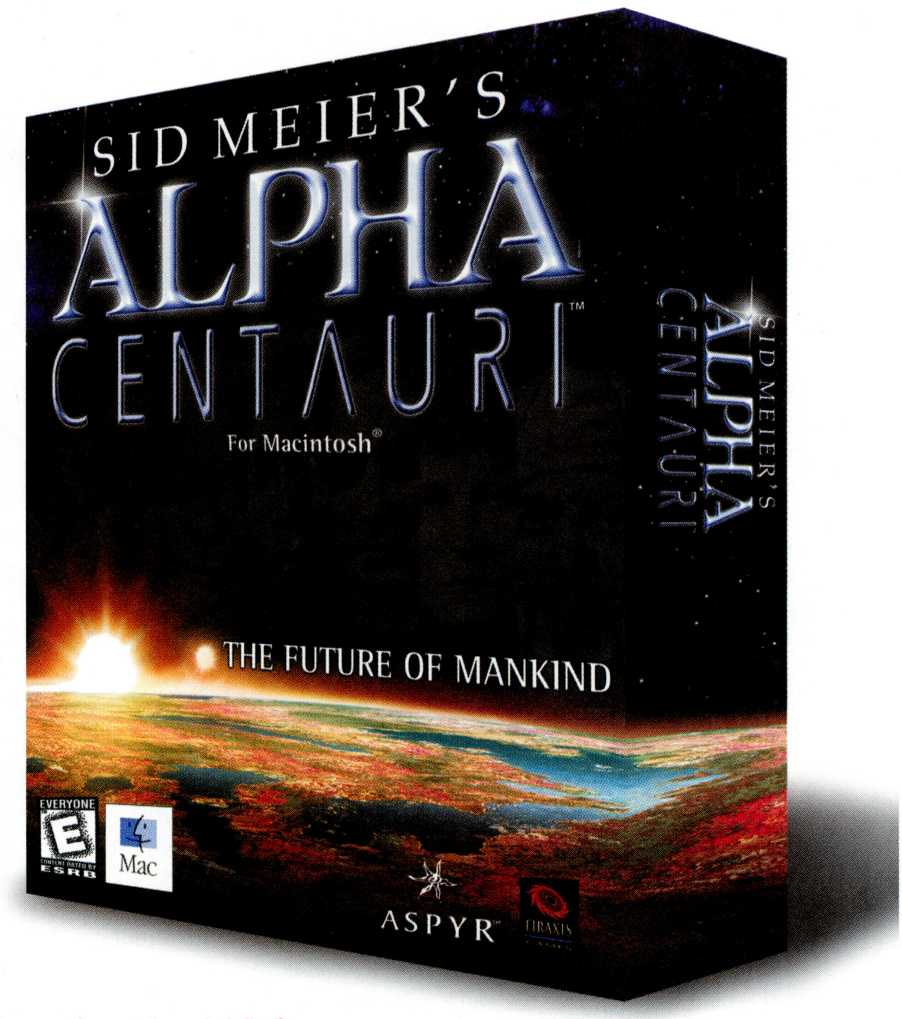

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Madden 2000

$50, Aspyr Media
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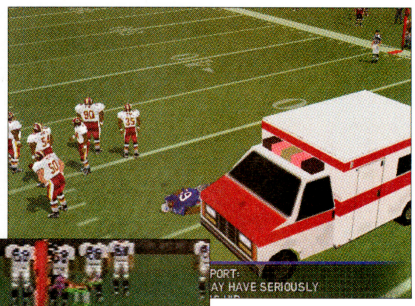
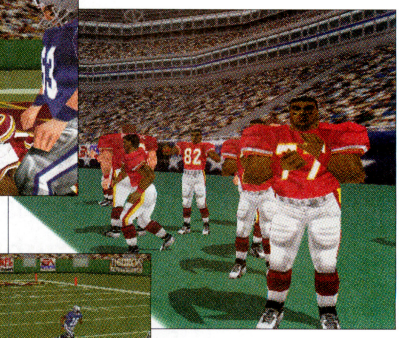


My freshman year of high school I went out for the football team. Seeing as how I have now devoted my life to playing videogames all day, you probably know already that I didn't have much luck with it. After my first three hour practice, I decided I'd probably be better off returning to soccer.

After only a few minutes with *Madden 2000,* it became apparent that my lack of skill on the gridiron is matched only by my complete incompetence at coaching. *Madden 2000* kicked my butt up and down the field, over and over again, until I screamed "Please make it stop, Mr. Madden!" I was left curled in the fetal position whimpering like a lost baby mongoose in a cobra farm. *Madden 2000* is a uniquely humiliating experience, one that will bring even the most devout football fan to his or her knees.

This is the toughest game I've played on any system. Even stacking the deck in my favor didn't help: I took the '91 Redskins (as a diehard Redskins fan, you can understand my constant grouchiness over the past few years) and gave the computer this year's 49ers. No dice, I still got routed.



And therein lies the pleasure of *Madden 2000.* Football is an unforgiving game. Some would say it is war, and no war should be simple. This game will humiliate you every time you run a stupid play, flub a handoff, or toss a casual pass. If you're not a football-strategy expert when you start playing, you will be when you finish.

Of course, as budding Mac gamers, you've probably not played a modern sports game. Here's a list of what you can do in *Madden 2000*: everything. There's nothing that happens on any given Sunday that doesn't happen here. You can call audibles at the line of scrimmage, injure opposing quarterbacks, block field goals, go for an onsides kick. Anything Jimmy Johnson can do, you can too. The realism is frightening. Players hit hard, and the sounds of shoulder pads and muffled grunts are deafening. Smack into a running back hard enough and his helmet may fly off. Swat down a pass and your safety will do a "Not in my house!" dance of victory.

The controls are solid, but you'll want a control pad for the full effect. You'll need to get to know six action buttons, so the learning curve can be a bit scary for newcomers. But once you figure out the basics, you'll be side stepping and strong arming your way through oncoming blockers with ease.

With all this visual pomp and circumstance you'll need some powerful equipment to play. If you have a third-generation 3D card (Voodoo3, Rage 128, Nvidia TNT2) you'll be fine as long as your processor is a 604e PowerPC running above 210Mhz.

There are a few chinks in the armor, however. Since this game was designed to run on the Sony Playstation first and everything else second, the interface is a bit awkward. You'll definitely be confused by the menu system. Because of this, adjusting the controls and the options is pretty obnoxious. And setting up a simple game takes a bit of practice as well. But you can play two players on one keyboard if you don't mind snuggling up to your opponent to share the space bar. And Internet play is a breeze to set up with the built-in support for the GameRanger player-matching system (www.gameranger.com).

When you get right down to it, there's no game that could have heralded the triumphant return of sports games to the Mac like *Madden 2000.* It's a flawless example of excellent gameplay combined with the realism die-hard fans desire.

--Alex Handy

Myth: The Total Codex

$20, Bungie
312-397-0500
www.bungie.com

If you've never played *Myth,* you're missing out on a lot. Bungie created an entirely new genre with its first foray into the real-time strategy domain two years ago. With *Myth II,* it solidified its place at the top of the gaming world by turning a great game into a classic. Numerous PC gaming magazines have placed *Myth II* on their greatest games of all time list, and our own readers placed it high on their list of favorite games. But what could possibly top all of these great accolades? Why, selling everything *Myth* for only $20!

Myth: The Total Codex is a great package. Under one cardboard roof comes *Myth: the Fallen Lords, Myth II: Soul Blighter, Myth II: Chimera*, strategy guides for both *Myth* and *Myth II*, and a whole slew of user-created maps and conversions. While the strategy guides are a bit lame (they come in PDF form on one of the CDs; PDF is Adobe Acrobat's portable document format), they're a good help when they finally finish printing out. *Chimera* is a furtherance of the *Myth* storyline in an eight-chapter single-player campaign that will have you crying with both fear and glee. It's a nice touch to the already phenomenal single-player experience that *Myth* offers. And as for the user created maps … drooooooooool.

For the uninitiated, *Myth* is a foray into the realm of a fantasy world much like those found in *Dungeons & Dragons* and *The Hobbit*. The world is in the midst of a continuing struggle for control between the races of good and life (humans, dwarves, and others) and the forces of evil and death (undead zombies, cleaver-wielding thralls, and the ilk). In the single-player game, you are the commander of a force of virtuous (sort of) warriors. You must command your forces into battle much the way a real commander would control a force of troops in a medieval battlefield. Select your troops, select a formation, and tell the troops where to go. You can place your archers on a ridge in a long line to heckle oncoming bad guys with a barrage of arrows or link your swordsmen into a tight box to fend off surrounding attackers.

While all of this is going on, you have a god's-eye view of the situation. You control the camera angle with the keyboard, and you can view the three-dimensional battlefield from any angle. The battlefields themselves are any general's dream, and terrain can really play a deciding role in a battle. Take the high ground, if you can. But who wants to play commander against a stoic computer all the time? That's why you can play *Myth* and *Myth II* online. This is where the real fun begins.

Once online, on Bungie's freely provided Bungie.net player matching service, you can join any number of games and meet thousands of interesting players. Would-be generals can team up and play out a grand battle of good versus evil or play every-man-for-himself games. But what really makes online play worthwhile are the player-created maps. With hundreds of maps to choose from, you can find a battlefield to suit every taste on the *Myth: The Total Codex* CD. If you prefer more realistic combat, try one of the conversions, such as *World War II Recon*. In this conversion, you play a lone WWII soldier caught in a swamp amidst other odd men out. You have standard WWII weapons and can pick up extra items such as mortar to help you survive. With the sequel conversion, *World War II Titans,* tanks enter the fray and the game gets really interesting. There are all sorts of fun conversions to try out on Bungie.net, and every day more and more are released free of charge online.

And speaking of free of charge, if you don't have the $20 to shell out for a copy of *Myth: The Total Codex*, and you already have *Myth II*, you can download *Chimera* and all of the conversions and user maps from Bungie.net free of charge. All you'll need is a few extra days to download, as *Chimera* tops the scales at 89MB. Now, I ask you, who but Bungie would do something this cool?

—Alex Handy

By Chris McVeigh

Internet File Sharing with Mac OS 9

Setting up a folder to share with your friends and colleagues.

Although owning an iMac or iBook is a statement itself, there are other ways you can express your individuality through your computer. The Mac OS provides several easy ways to tailor the interface of your Macintosh.

Mac OS 9 includes the ability to share files over the Internet. Here are step-by-step instructions to help you share your files with colleagues, whereever they are.

Step 1: Start File Sharing

Open the File Sharing control panel and click on the Start/Stop tab. Under Network Identity you'll see fields for owner name, password, and computer name. Your owner name may already be in place if you used the Mac OS 9 Setup Assistant, but you can change it if you like. You must also specify a password (if you've already played with the Keychain feature your password may already be stored). Finally, you can enter a name for the computer. It can be straightforward, such as "Chris's Computer," or perhaps more whimsical, such as "Funky Chicken." Click Start to initiate File Sharing. It takes a few moments.

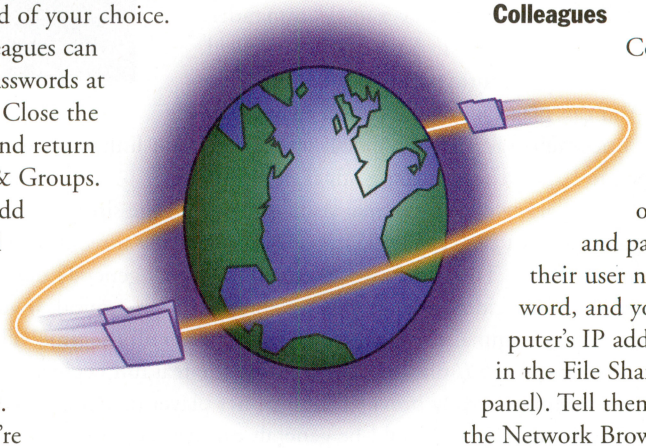
Now, use the Remote Access control strip module to connect to the Internet. Return to File Sharing and check the option to "Enable File Sharing clients to connect over TCP/IP." This tells the Mac OS to allow your colleagues to connect to your computer over the Internet. Your IP Address listed at the bottom of the Network Identity section.

Step 2: Setting up User Accounts

Click on the Users & Groups tab atop the File Sharing control panel. You'll see several buttons. Click one called New User. Next, you'll see fields for both name and password. Enter the name of your colleague, and assign him a password of your choice. Your colleagues can change passwords at any time. Close the window and return to Users & Groups. You can add additional users by following the same procedure. Once you're done adding users, you should group them together. Click New Group, and you'll see a field allowing you to specify the group name.

Step 3: Specifying a Shared Folder

In the Finder, select New Folder from the file menu to add a folder to the desktop. Name it logically, like "Shared Items." Click once on the folder to highlight it, and select Get Info from the File menu. Next, select Sharing from the pop-up menu near the top. Check "Share this item and its contents" to allow access to the folder. In the Users & Groups pop-up menu, select the name of the group you just created. To the right of this menu, there is another pop-up menu that that lets you specify the type of access you want to allow to the folder: Read & Write, Read Only, and Write Only. Select the access privileges, and close the window.



Step 4: Connect Your Colleagues

Contact your colleagues by phone, email, or online chat and pass along their user name, password, and your computer's IP address (visible in the File Sharing control panel). Tell them to select the Network Browser from the Apple menu. Once the browser is open, they must select "Connect to Server..." from the pointing-hand pop-up menu and enter your computer's IP address. They'll soon be presented with a log-on screen in which they can enter their user name and password. In a few moments, your shared folder will appear on their desktops, and they'll have access to any items you place in it. MH

CHRIS MCVEIGH

By Chris McVeigh

Apple's AirPort

How the wireless wonder gets data in the air

Apple's revolutionary AirPort technology lets iBook users rise from their desks and walk the Earth. iMacs can now be networked through the air — into the next room, up the stairs, or even across the street. As the industry begins to embrace the wireless, Apple is among the first out the gate.

Cleared for Takeoff

AirPort uses radio waves to transmit digital data from one computer to another. It seems an obvious idea, but cost and the lack of a comprehensive wireless communications standard kept the technology off the shelves until recently. Apple's AirPort devices conform to the new IEEE 802.11HR wireless networking protocol, providing transmission speeds similar to a standard Ethernet connection (approximately 1.2MB per second). Owners of older PowerBooks and Power Macintoshes can add IEEE 802.11-compliant cards to their systems to join the wireless world.

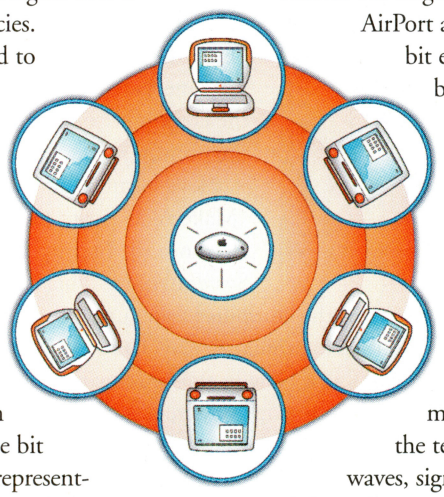
The AirPort takes on several forms. Apple has designed a headless AirPort Base Station ($299) to function as a relay between Macs equipped with an AirPort card ($99). The AirPort Base Station isn't a requirement for an AirPort network, however. Any AirPort-equipped Mac — the iBook, iMac, or Power Macintosh G4 — can function as a base with the addition of Apple's AirPort Software Base Station.

AirPort technology uses Direct Sequence Spread Spectrum (DSSS) modulation to send digital data through the air. Spread spectrum systems were originally developed for military purposes, due to their inherent reliability and security. Instead of sending information via a very narrow band of the radio spectrum, these systems spread the data signal over a wider band of frequencies. The AirPort is designed to operate with a center frequency of 2.4GHz, with a variance of 83.5MHz above and below.

AirPort takes data streaming from your Macintosh and modifies it for air travel with DSSS modulation. One bit of raw data is actually represented by a pattern of 11 bits when transmitted. This pattern, sometimes called a chipping code, is known to both the transmitter and receiver. A radio wave representing the bit pattern is created by alternating the wave's frequency within the predefined band. Sent normally, the bit pattern represents a "1." Sent inverted, the bit pattern represents a "0." The receiver collects the signal, decodes it with the chipping code, and routes it to your iMac.

Having 11 bits represent a single unit of data adds redundancy to the signal, and in the event that one or two bits are corrupted by radio interference, the value of the original unit of data can still be determined from context. This increases the reliability of the transmission and improves overall speed, as data very rarely has to be resent.

Signals sent from the AirPort are essentially indistinguishable from low-power wideband noise. Even if a person were to single out an AirPort transmission, they must still determine the chipping code to recover the original data stream. The AirPort also incorporates 40-bit encryption to scramble data, making it virtually impossible for would-be eavesdroppers to decode the recovered data stream.



The AirPort has an average range of approximately 150 feet. Since the technology uses radio waves, signals are easily transmitted through most walls and barriers. Unfortunately, metallic obstructions between your Macintosh and the base station can cause signal degradation and reduce the overall range.

Up, Up, and Away!

Wireless networking is in its infancy. Although the AirPort marks a bold step in a new direction, its relatively short range limits it to local networking. As we march into the new millennium, telecommunications companies will begin to offer wide-ranging wireless data services. Soon, you'll have information at your fingertips — anytime and anyplace. MH

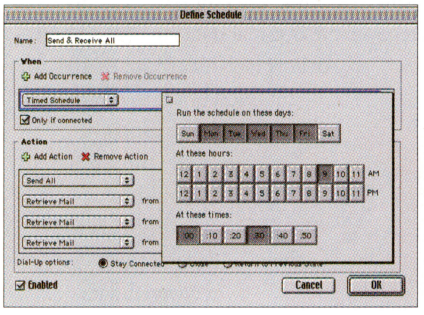
CHRIS MCVEIGH

By Chris McVeigh

Automate Your Email During Vacation

It's nice to get away from both your work and your email once in a while. Although you might not feel like taking your email on the road with you, you may feel obligated to let people know that it will take a few days for you to respond. Outlook Express 5 and the Mac OS Energy Saver control panel can help you do just that. You can program your Macintosh to automatically start up each day, launch Outlook Express, check your email, automatically reply to all messages with a note stating you're away, send that email, and then shut down.

The first task is to tell your Macintosh when to automatically start up. Open the Energy Saver control panel and click on the Schedule button. You may see a box titled "Schedule Options" that offers you the choice of shutting down the computer instead of putting it to sleep. Check off this option so your Macintosh isn't running the entire duration of your vacation. Now check the box marked "Start up the computer" and specify the time and intervals. Select "Everyday" from the pop-up menu and set the time to 8:45. Now, check the "Shut down the computer" box, select "Everyday" from the pop-up menu, and enter a time of 9:45.



Now, locate Outlook Express and select "Make Alias" from the File menu. Drag the alias into the Startup Items folder within the System Folder. This ensures that Outlook Express is launched every time the computer starts up.

The third task is to specify an automatic reply. Launch Outlook Express and select Rules from the Tools menu. Click New in the window that appears to define your new mail rule. Give your rule a descriptive name, such as "Vacation Reply." Make sure the pop-up menu in the "If" box is set to "All messages." Skip down to the "Then" box and select "Reply" from the pop-up menu. Click on the Reply Text button at the left and type in your away message. Click Okay to save your changes and return to Outlook Express's main window.

The final task is to specify an automatic schedule for sending and receiving email. Select Schedules from the Outlook Express's Tools menu. Double-click Send & Receive All in the window that appears. This will open another window titled Define Schedule. Select "Time Schedule" from the pop-up menu in the topmost box. Click on the gray banner at the right to specify your schedule preferences. Since we've told the computer to start up each and every day, you should depress each day of the week. You'll also want to depress the button representing 9:00AM. Finally, let's opt to check mail at the top (:00) and bottom (:30) of the hour. This will allow time to download email attachments you might receive and at the same time, allow your automatic reply to be sent out the same day. Save your changes, quit the application, and start packing.

Each day during your absence, your Macintosh will automatically collect your email and send an automated reply letting your colleagues know that you're off having a wonderful time and that you'll reply as soon as you get back.

Audio Feedback with iMac DV?

iMac DV owners have been startled to hear subtle buzzing from the computer speakers. The problem becomes more curious when it's discovered that the buzzing changes pitch with different mouse actions, such as pulling down a menu. Raise your iMac's volume to maximum and hold open a menu to see if you have this problem. Listen for an unmistakable static buzzing that sounds suspiciously like an unused *radio frequency.* Don't be alarmed if you discover a buzz. There's a simple fix.

Extend the Control Strip and look for the audio input module (the one that contains a picture of a microphone). Click once on the module to view its options. Now, if you've heard a buzzing, you'll find that the audio input has been set to "Internal Modem." The modem has been picking up radio frequencies emanating from the computer and has been passing them along to the speakers. To rid yourself of the audio feedback, simply select "Built-in Mic" or "Sound-In."

share your tips!

Got some tips you'd like to share with your fellow *MacHome* readers? Please send them to:

chris @ machome.com

All mail is assumed intended for publication, and we reserve the right to edit tips for brevity and clarity. When sending your tips, please make sure to include your full name.

Disc Dilemmas

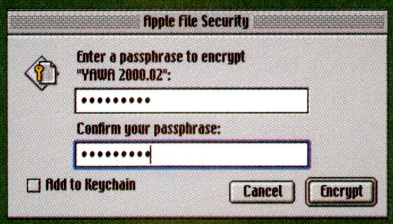
Apple's latest iMacs ship with wonderful trayless disc drives. The drives generally work like a charm, sucking in and spitting out discs with ease. Occasionally, however, the drive may find a certain CD or DVD somewhat disagreeable. In rare cases, a disk may not eject far enough for you to grab it and pull it out. There's no need to run to your local Apple dealer in tears. Examine the mouth of the drive closely and you'll see a small hole at the far right. Stick an unfolded paper clip in this hole and you'll be able to manually eject the disc.

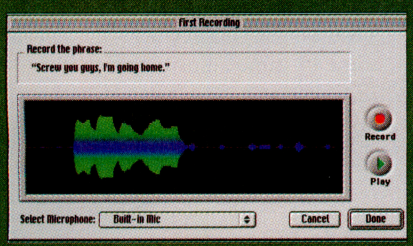
Secure Your Data with Mac OS 9

Do people have access to your Macintosh when you're not around? Do you worry about prying eyes poring over important documents? Mac OS 9 can help give you peace of mind.

Apple File Security — Apple File Security (AFS) is an encryption application included with Mac OS 9. Assuming you haven't moved it after the installation, you should find the application in the Security folder, within the Applications folder. To encrypt your sensitive files, simply drag a document or folder onto the Apple File Security icon. You'll be presented with a dialog box asking you to specify a password for the encrypted file. It's very important you remember the password, as the document cannot be unlocked without it. .

Voiceprint Password — Protecting individual documents may not offer enough peace of mind. In some cases, it may be better to double the protection by establishing password entry to your Macintosh. Open the new Multiple Users control panel. At the bottom of the window, click On to activate Multiple User Accounts. (You don't actually need to create a second user.) Click the Options button at the left and check "Allow Alternate Password" in the Log-in Settings box. Save your changes and return to the first window. Now double-click on your name. Another window will open. Specify a password of your choice, and then click on the small blue triangle in the bottom left to show additional setup details. Click on the rightmost tab marked "Alternate Password," and click on the Create Voiceprint... button. Press the Change phrase... button at the bottom of the new window to specify a passphrase of your choice. You should choose to "Hide phrase at login," so would-be infiltrators cannot see your secret phrase. Click Okay and then click Continue to record your unique voiceprint. You'll have to speak this phrase to access your Macintosh each time it starts up. Unless someone else overhears your passphrase and sounds a heck of lot like you, you've added an extra layer of security to your computer.





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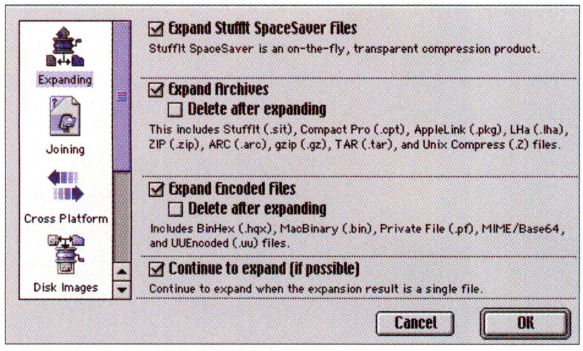
By Chris McVeigh

StuffIt Madness, Game Cards, AppleWorks Drawing

Q I was perusing the latest *MacHome* CD and noticed that it included StuffIt Expander 5.5. I checked my hard drive and discovered several older copies of StuffIt Expander. Should I keep a copy of each version handy? I thought I read that the latest version of StuffIt Expander has problems unstuffing items compressed with earlier versions of DropStuff?

Rick Flight

A You can go ahead and trash all previous incarnations of StuffIt Expander. The latest version can decompress files created with any version of DropStuff or Stuffit Deluxe. The problem you allude to is actually an issue for users of DropStuff. Many people have taken their time upgrading to StuffIt Expander 5. This has been a concern for early adopters of DropStuff 5, since items compressed with the latest edition of DropStuff cannot be unstuffed by older versions of StuffIt Expander. After upgrading to DropStuff 5, I received messages from colleagues who could not expand attachments I had sent them.



Q I do the majority of my work with the drawing component of AppleWorks 5. Last week, alarmed that my hard drive was filling rapidly, I went through every graphics file and saved them all as JPEG files, replacing the AppleWorks originals. Now when I open my documents, they come up as paint files, and I cannot edit or modify them! Is there any way I can get my original files back into the drawing mode, or must I redo all my work from scratch?

John Winter

A I'm sorry to be the bearer of bad news, John. The prognosis is not good. There are two types of digital images: line-art images that can be scaled to any size, where the components (lines, polygons, and their fills) are described by mathematics; and pixel images with fixed resolution, where the color of each dot (pixel) is individually specified. AppleWorks drawings are line-based artwork, but JPEG is a file format designed for pixel-based images. Saving your documents in the JPEG format simply captured a snapshot of the drawing, and in the process, it overwrote the original files and obliterated your hard work. The files can now only be edited pixel-by-pixel with a paint program.

Q I just bought a brand new Power Macintosh G3/350Mhz. I also purchased *Myth II* and *Carmageddon 2,* and I've noticed that the textures in both games seem to have a grainy appearance. The Rave option is selected in all the games and the 3D acceleration appears to be working properly. I have changed the number of colors, the resolution, and many other options, but the problem does not go away. Can you explain this?

Allen Lee

A Although it's somewhat distracting, the grainy appearance of the games is actually normal. The ATI Rage 128 card in your Power Macintosh G3 handles three-dimensional graphics somewhat differently than its predecessors. Games run in 16-bit color mode exhibit grainy graphics because the card uses pixel interpolation to represent the vast range of colors in the environment. Thankfully, there is no graininess to 32-bit game graphics. Visit the game's video Preferences menu and switch to 32-bit graphics mode, if the option exists.

Playing a game in 32-bit color puts a heavy strain on the graphics card, however, and may cause the game's frame rate to drop significantly. If you have no choice but to play the game in 16-bit color mode, you may be able to make some in-game adjustments to improve the picture. Increasing the resolution to 800 x 600 will make the pixels smaller and reduce the graininess somewhat, but, again, you may experience a drop in frame rate.

If you simply cannot stand the graininess, I suggest you purchase a new Voodoo3 accelerator from 3Dfx. The Voodoo3 card generally outperforms the ATI Rage 128 card, and you'll

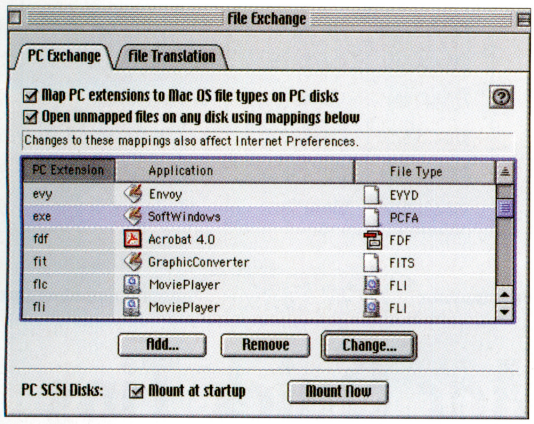
never be bothered by graininess again.

Q I have been receiving email attachments that end with ".exe" that I have not been able to open. What do I need to do to open this type of file? I've tried everything I can think of, and yet all I get is garbled text. Any help would be appreciated.

Del Suarez

A The email attachments you have been receiving are actually applications intended for use with computers running Microsoft Windows. The file extension ".exe" identifies the document as a binary executable.

When you launch an application on your Macintosh, specific instructions are sent to the PowerPC processor.



Likewise, when you launch an application on a computer running Microsoft Windows, specific instructions are sent to the Pentium processor. Unfortunately, PowerPC and Pentium processors don't understand the same set of instructions. When you try to double-click a binary executable file on the Macintosh, the PowerPC processor can't understand the code it's reading. You cannot access such files on your Macintosh unless you install a PC-emulation program, such as Virtual PC. These programs translate instructions intended for the Pentium processor into instructions the PowerPC processor can understand.

Q The last twelve months of Back to Basics has made it a breeze to set up my new iMac properly, and now I have a question for you. I have a Umax Astra 600S scanner I'd like to connect to the iMac, but the connector on the scanner is rectangular and huge compared with the small flat port on the iMac. Can I purchase an adapter of some sort to connect the scanner to the iMac?

Ken Trommetter

A You describe two very different expansion ports. The Astra 600S uses a SCSI (Small Computer Systems Interface) expansion port, while the iMac hosts two USB (Universal Serial Bus) ports. SCSI was a Mac mainstay until the iMac, which eschewed the old standard in favor of the more capable and easier-to-use USB port. There are several USB-to-SCSI adapters now available, including the iConnect from Ariston Technologies ($70). The adapter allows you to connect up to seven SCSI devices, letting you use older equipment such as the Astra 600S scanner. SCSI devices can be a bit squirrelly, however: You may have to muss about with device ID numbers and terminators in order to get your scanner working properly. Your $70 may be better spent on a true USB scanner, such as the Astra 1220U. MH

let us know!

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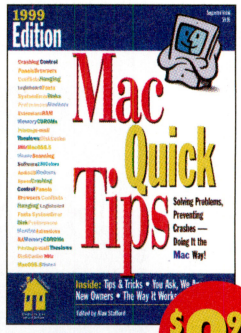

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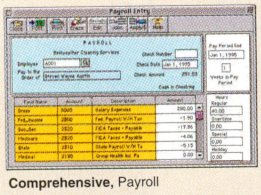

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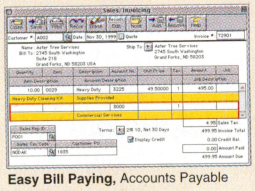

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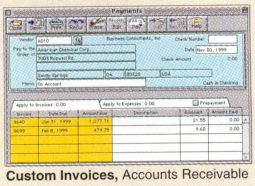

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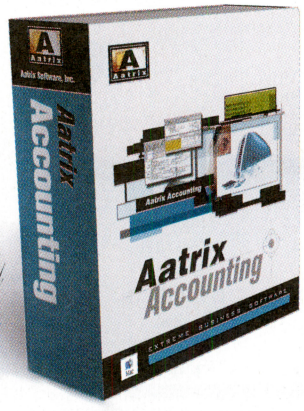

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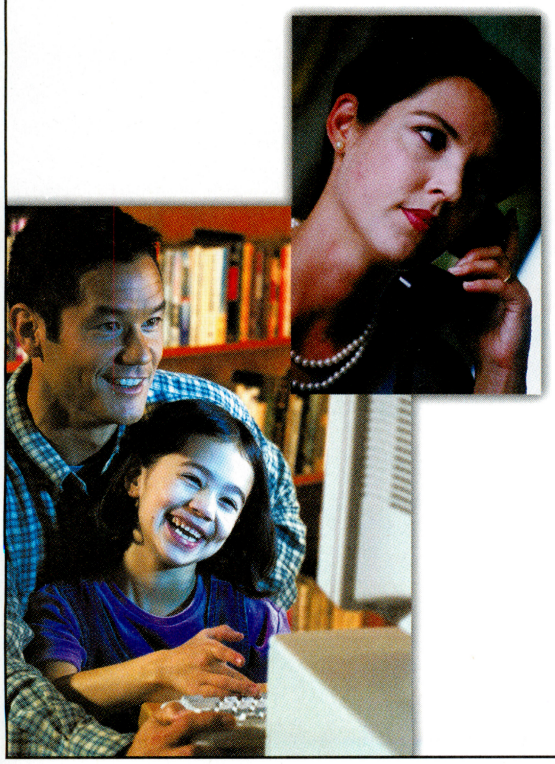

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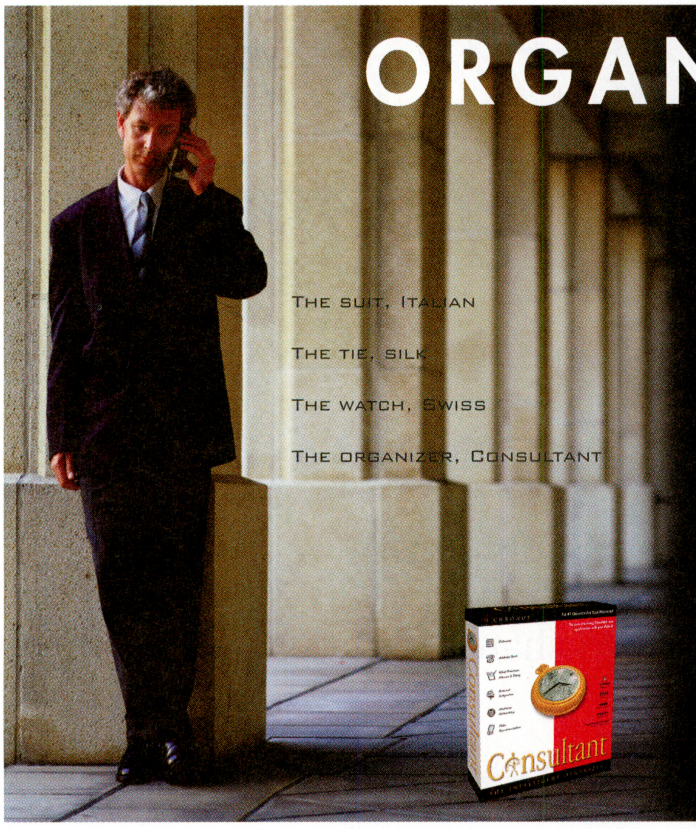

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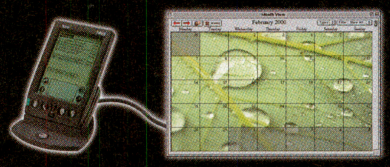

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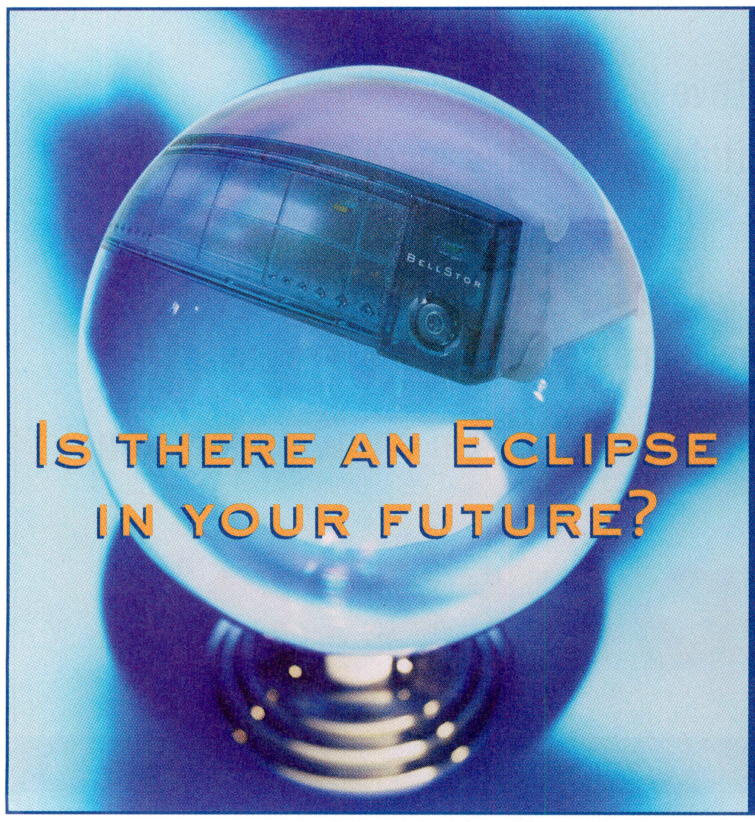

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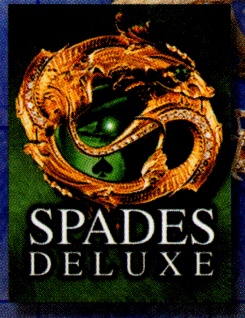

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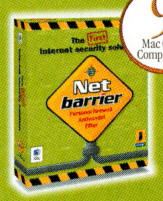

9 Mac OS 9 Compatible

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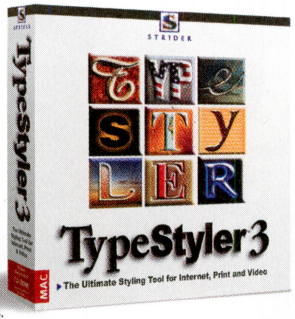

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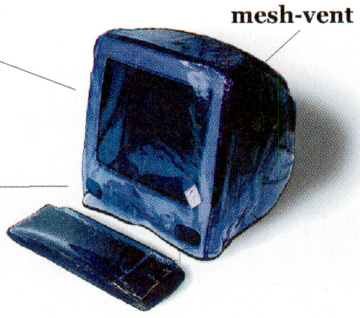

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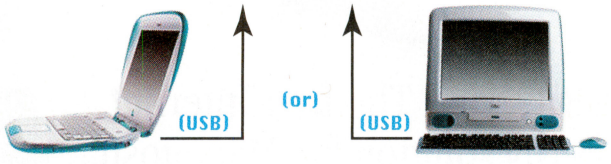

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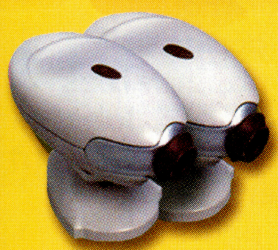

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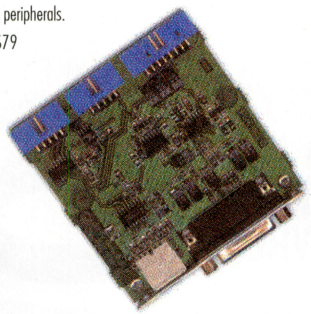

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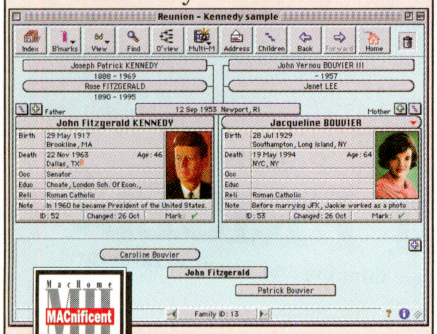

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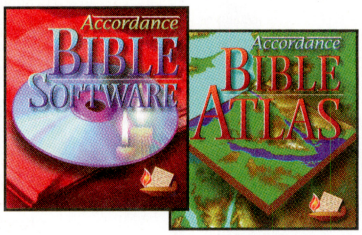

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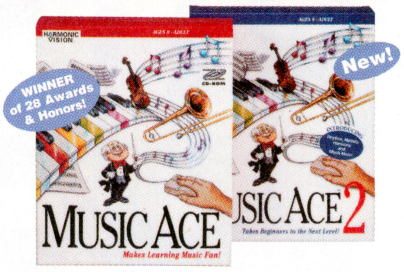

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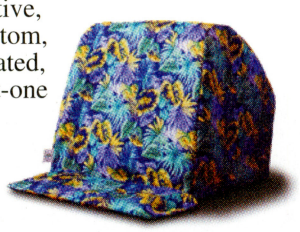

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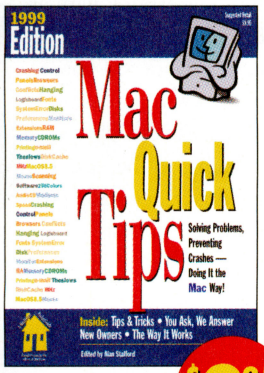

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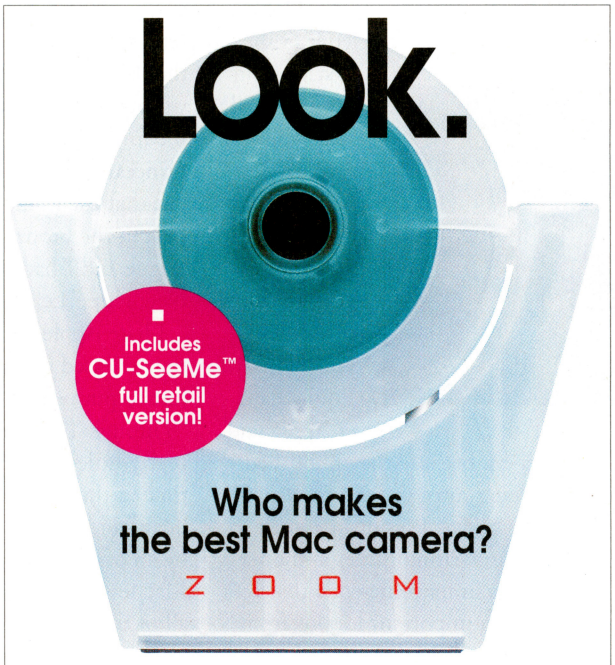

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ihnatko [Commentary]

By Andy Ihnatko

Now They've Done It

The straw that broke the Camel's back, et cetera, yadda yadda, ad infinitum

Can't stand 'em, can't tolerate 'em, can't even humor 'em any more.I hate them because my Apple II+ didn't have any lowercase characters. Lowercase was invented, what, like over a hundred years ago or something but noooo, Apple had never heard of them.

And how I was taunted and taunted by my schoolmates when Mrs. Bellissamo had me write a sentence on the blackboard and I drew the first letter of the first word in inverse! Well, that's the way AppleWriter taught me to do capital letters, and with the faith of a nine-year-old boy, I did whatever Apple said.

The hot "Return Of The Jedi" cardboard cutout Princess Leia in the bronze bikini was out of my league and I had to take the chaste "A New Hope" Leia cutout instead.

I hate them because they published the complete source code to the Apple IIe's ROMs and as I result I devoted so much time to writing games and operating systems in machine code that I missed out on important lessons from high school, namely that if a young man is blessed with as many social and physical deviations from the baseline human specimen as I, and he wants to go to the senior prom with a real girl, then that young man needs to begin wearing down the resistance of the female student population no later than the third week of Freshman year. It wasn't enough that everyone belittled me for bringing a cardboard cutout of Princess Leia. No, they had to point out that the hot "Return Of The Jedi" Leia in the bronze bikini was out of my league and I had to take the chaste "A New Hope"Leia cutout instead.

I hate Apple because the one time they released a game for the Mac, it was just to put us all in our place. "Through The Looking Glass"was a pretty little game released at the same time as the first Mac. You're on a chessboard and have to avoid being captured by all of the other pieces. But while the Mac knows every single chess piece and all of their legal moves innately and can execute at least ten moves a second, you have to think and can maybe move once or twice before you get killed. Yes. Thank you, Apple, yes, I understand that your new computer is a million times faster and smarter and better than I'll ever be. Why don't I just bow down?

I hate them because of those commercials a few years ago where people were designing flying hovercars on Macintoshes, and I'm looking out the window right now and the air seems relatively uncluttered by flying hovercars. Yet do you know how long I kept my 1982 Gran Fury running, just because I was worried that the moment I bought a new Toyota Apple would finally start selling their flying cars?

I hate Apple because they cancelled the Newton, even though years later the Newton 2100 is still the best palmtop you can buy. I hate them because they've never come out with an Eddie Deezen "Think Different" poster. I hate them because they got marketing tie-ins with "Mission Impossible" and "Independence Day" instead of something more watchable, like a movie based on a Saturday Night Live sketch. I hate them because they've never built a PowerBook with an integrated PEZ dispenser.

But most of all, dear readers, I hate Apple — despise them with a passion that compares to the Lex Luthor/Superman thing — because I write about the company, generally positively, and thus owning Apple stock would be unethical and perhaps even illegal, considering the amount of information I have that isn't publicly available. And if I myself had bought Apple at 12 3/8 as I had enthusiastically urged friends and family to do at the time, as of today I would have octupled my money.

So Apple, congratulations on breaking $100 per share, you miserable, stinking jerks!!! MH

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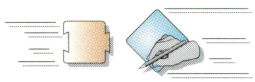
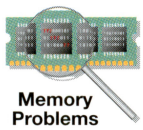
The Seven Deadly Macintosh Sins:



Software Conflicts



Memory Problems

Viruses

Hardware Problems

Network Problems

Disk Damage

Damaged Software

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When good Macs go bad and fall from grace, it's good to know there's help nearby. Salvation is only a mouse-click away with the new TechTool Pro 3. Now featuring virus protection and conflict detection, TechTool Pro is the only program you need to help abolish the evil forces that have possessed your Macintosh. TechTool Pro 3 checks more aspects of your Macintosh than any other utility available. Period. Besides repairing and recovering damaged drives, eradicating viruses and catching the occasional software conflict; you can also test all those other critical parts of your system that other utilities simply ignore. Like RAM, logic board components, floppy drives, scanners, modems, internet connections and so much more. TechTool Pro even supports technologies like System 9.0.1, "Pure" HFS+, Firewire and USB drives, and all of the latest Macintosh models.

TechTool Pro can also help you in between times of trouble. Our disk and directory optimize features can help improve the performance of your Macintosh as well as help circumvent problems before they happen. The TechTool Protection control panel will regularly check your system so you don't have to. It will also back up critical directory data, so if something goes wrong, you'll be up and running in no time flat.

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So if Macintosh troubles are turning your life into a living Hades, check out the tool of the trade: TechTool Pro. After all, you have the most powerful computer in the world. Shouldn't you be using the most powerful utility?

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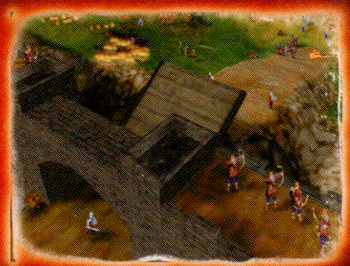

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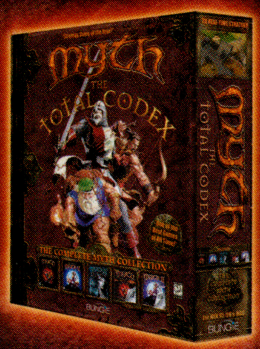

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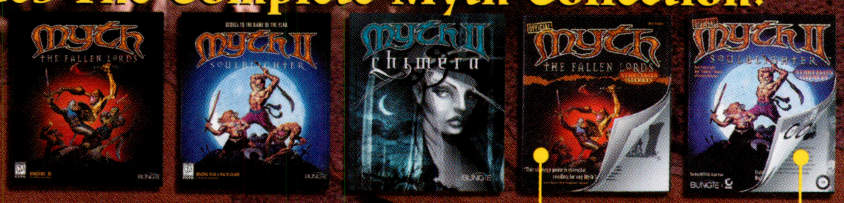

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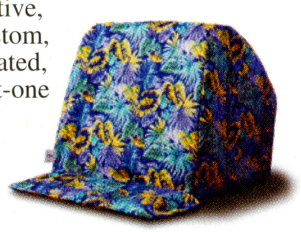

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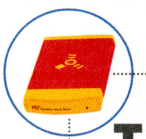
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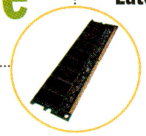
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ihnatko [Commentary]

By Andy Ihnatko

Sans Script

You still haven't learned to use AppleScript. Your punishment: this column.

I think if you've been reading me for a while, you know I am the soul of human kindness and generosity to my readers. Code of the Ihnatkos and all that: Pitch in for pal in need and give no thought as to self. A reader writes in needing a co-signer for a car loan? Well, I'm here for you.

Enough of that. Now, I'm going to ask you people to do something for me this time: learn AppleScript. I hate to have put you under the pressure of a debt of honor, but the argument "It's for your own good" has proven about as effective as it does when applied to a 7-year-old in front of an untouched plate of pickled beets, so I feel it's time to slip the iron hand from the velvet glove.

What scares people is the idea that AppleScript is an entire programming language with which you program your Mac. Please! It's a "Scripting Language."

Here's why: just learning the basics of AppleScript — the rough equivalent of performing basic arithmetic on a $160 programmable scientific calculator with vector and matrix math functions — will revolutionize your daily Macintosh experience to a far greater degree than any new OS upgrade will.

What scares people is the idea that AppleScript is an entire programming language with which you program your Mac. Please! It's a "Scripting Language." You don't program your kids to change their clothes, put their books away, and vacuum the rug when they come home from school. You just leave them a little note on the kitchen table, and if it turns out that they don't know how to work the Electrolux, you show them first.

This should be your mindset. Learn how to write out that list. (It's really nothing like the regimented programming language you might remember.) And learn how to show the Mac how to do something. This requires that you know how to operate a tape recorder, because the AppleScript Script Editor app that came with your Mac features standard record, stop, and playback controls. Hit the red round button, tidy up your Desktop like you do every day, and then click Script Editor's Stop button. There. The Mac knows how to do that automatically, now. And if you save that script into your "Shutdown Items" folder, it'll tidy up your desk automatically at the end of the day. No programming needed; none at all.

Another compelling reason to get hip to AppleScript is the fact it's an essential tool in creating and maintaining other people's perception that you're some manner of god. AppleScript can control and interact with any app you've got, and it is the mechanism by which you can interact with all kinds of hardware. After all, a script that automatically creates and emails an expense report is, well, nice, but if you want to make a real impression on your co-workers, let them discover one that fires a Nerf dart at their heads if they even try to access one of your secured folders while you're on vacation.

Finally, you should get behind it because Apple, praise Tarim, finally is. And it's about time, too. With the last few OS releases, we've finally seen AppleScript evolve from Merely Useful into [obscene gerund] awesome. With Mac OS 9, AppleScript can run over a TCP network. You know what this means? With a couple of scripts of just a few lines each, I can be 3,000 miles away and get an instant photo of what's going on in my office. And if I see someone in my chair, I can put a Nerf dart right between his eyes, man!

So please, don't make me ask again. No kiddin'. Go to www.toexcel.com and buy a copy of Danny Goodman's AppleScript Handbook, still the best primer in print (though a tad out of date). Then hit www.scriptweb.com for thorough and timely scripting resources.

Don't make me come over there. MH

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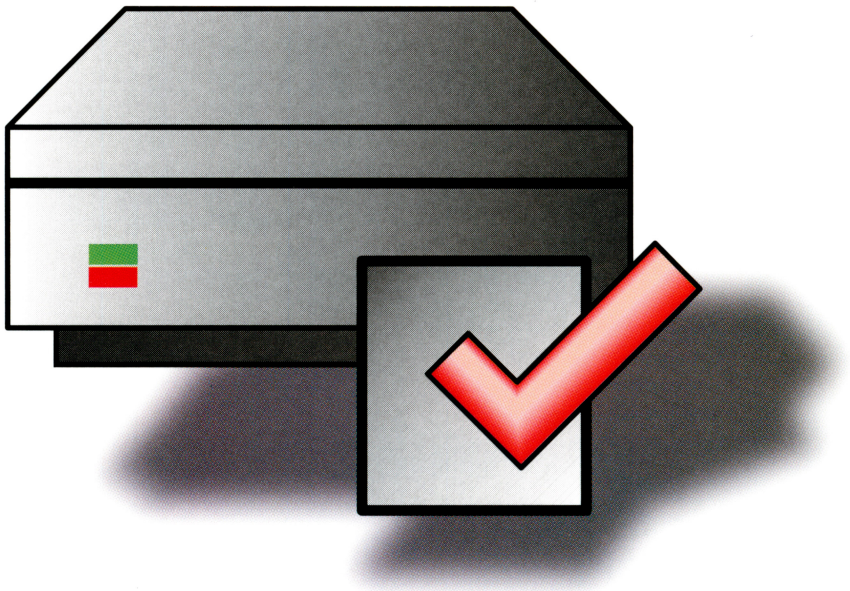

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*** Version 2.5.2 is available at no charge to registered TechTool Pro 2 users as an updater application directly from the MicroMat web site. If you do not wish to download the updater or would prefer a new CD, they can be purchased for $25 plus tax, shipping and handling by calling the phone number above. Please have your serial number ready when calling. Prices subject to change without notice.**
**** Version 2.5.2 is scheduled to be released when Apple releases System 9.**

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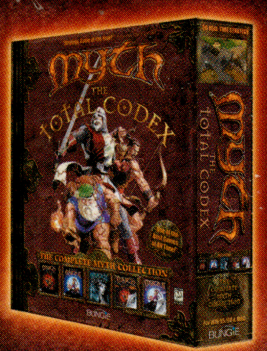

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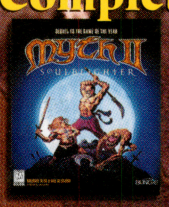

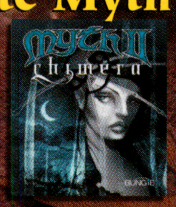

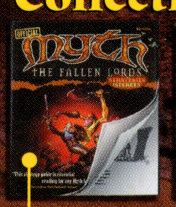

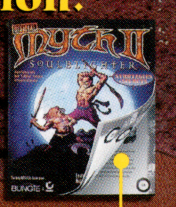

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